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SPECIALIZED INSTRUMENTS
AND EQUIPMENT AVAILABLE IN CSIR
LABORATORIES AND COOPERATIVE
RESEARCH ASSOCIATIONS



COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH
NEW DELHI

294

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Compiled by

Research Coordination, Industrial Liaison & Extension Unit



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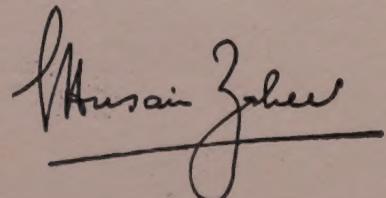


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FOREWORD

The need for a reference source indicating specialized instruments and equipment available in the National Laboratories has been felt for a long time. Besides providing information on specialized items available in these institutions, it helps universities, industries and Government agencies in seeking assistance direct from the nearest laboratories.

The information has been compiled on the basis of replies received from the laboratories up to November 12, 1964. The limitations of obtaining comprehensive and complete details are well realized. However, it is hoped that users will obtain fuller details from the laboratories when needed.



Director-General
Scientific & Industrial Research

New Delhi
July 26, 1965

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Abbreviations Used

ATIRA	Ahmedabad Textile Industry's Research Association, Ahmedabad
BITM	Birla Industrial & Technological Museum, Calcutta
BTRA	Bombay Textile Research Association, Bombay
CBRI	Central Building Research Institute, Roorkee
CDRI	Central Drug Research Institute, Lucknow
CECRI	Central Electro-Chemical Research Institute, Karaikudi
CEERI	Central Electronics Engineering Research Institute, Pilani
CFRI	Central Fuel Research Institute, Jealgora
CFTRI	Central Food Technological Research Institute, Mysore
CGCRI	Central Glass & Ceramics Research Institute, Calcutta
CLRI	Central Leather Research Institute, Madras
CMERI	Central Mechanical Engineering Research Institute, Durgapur
CMRS	Central Mining Research Station, Dhanbad
CPHERI	Central Public Health Engineering Research Institute, Nagpur
CRRI	Central Road Research Institute, New Delhi
CSIO	Central Scientific Instruments Organization, Chandigarh
CSMCRI	Central Salt & Marine Chemicals Research Institute, Bhavnagar
IIBEM	Indian Institute for Biochemistry & Experimental Medicine, Calcutta
IIP	Indian Institute of Petroleum, Dehra Dun
IOE	Indian Ocean Expedition, New Delhi
IPIRA	Indian Plywood Industries Research Association, Bangalore

NAL	National Aeronautical Laboratory, Bangalore
NBG	National Botanical Gardens, Lucknow
NCL	National Chemical Laboratory, Poona
NGRI	National Geophysical Research Institute, Hyderabad
NML	National Metallurgical Laboratory, Jamshedpur
NPL	National Physical Laboratory, New Delhi
RRL, Hyd.	Regional Research Laboratory, Hyderabad
RRL, Jammu	Regional Research Laboratory, Jammu
SASMIRA	Silk & Art Silk Mills Research Association, Bombay
SITRA	South India Textile Research Association, Coimbatore
VITM	Visvesvaraya Industrial & Technological Museum, Bangalore

PART I

Specialized Instruments & Equipment



Section 1 : Physical Apparatus & Instruments

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/Institute</i>
Absorptiometer	Brochem Photoelectric Absorptiometer H-627	CBRI
	Hilger Absorptiometer	CSMCRI
	Spekker Absorptiometer with fluorimetric arrangement	CMRS
	Spekker Absorptiometer with heat absorbing filter, H 760/30	NML
Acoustic Analyser	<i>See</i> Analyser, Acoustic	
Acoustimeter	<i>See</i> Sound Level	
Admittance Meter	<i>See</i> Meter, Admittance	
Amplifier	D.C. Amplifier, D.C.A.I (Suvic)	NML
	D.C. Amplifier & Electrometer Type 1230A	CSIO
	G.M. 5535	CBRI
	Linear	RRL, Jammu
	Non-Blocking Linear Pulse Amplifier Type D. 4129 Labgear	CSIO
	Brown Electronic	NML
Analyser, Acoustic	Impact Noise Analyser, GR	CBRI
	Octave Band Analyser	CMRS
	Scott Sound Analyser Model 420A	CBRI
	Sonic Material Analyser	CBRI
Analyser, AF/RF, etc.	Elco Audio-Model 402, Tektronix Inc., USA	CSIO
	RF 10-30,000 Mc.	CEERI
	Rhode & Schwarz	CSIO
	TF 455E	NML
Analyser, Control System	MKI	CEERI
Analyser, Fluid	Electrical Analogue	CMRS; NAL

Instrument/Equipment	Description	Laboratory/ Institute
Analyser, Sonic Material	—	CBRI
Analyser, Strain	Electro-optic methods	NPL
Analyser, Vibration	Philips, with Amplifier and Oscillator	NPL
	Model No. TF 455 E	NML
Anemometer	Different types	CMRS
Anemometer, Hot Wire	—	NAL; ATIRA
Apertometer	Carl Zeiss, Jena	CISO
Archival Reader	Recorder with $1'' \times 2''$ lenses	IOE
Autograph	Model 680 SI. Moselez Co., USA	CSIO
Automatic Equipment	See Controllers, Computers, Data Processing Equipment and Analysers	
Balance, Chinamatic	Air	CFTRI
Balance, Analytical	Mettler type Analytical Balance	NPL; IOE
Balance, Electrical	Microwave AW10 ultra single pan high speed electrical Analytical Balance, Capacity 200 g.	SASMIRA
Balance, Electro-Optical	Single pan high speed analytical Balance, Capacity 200 g.	SASMIRA
Balance, Magnetic	For measuring the strength of magnetic field	CGCRI
	Askania. Range-1500 γ without using supplementary magnets and 50,000 γ with supplementary magnets	NGRI
Balance, Micro	Pye Cat	NML
	Mettler	ATIRA; SASMIRA; NCL
Balance, Sedimentation	For particle size analysis up to 75 microns	CMRS
Balance, Thermo	Stanton	CECRI; CRRI
	Stanton Automatic Model H.T.M.	CBRI
Balance, Torsion	Capacities 0-10, 0-100, 0-500 and 0-1000 mg.	SASMIRA

Instrument/Equipment	Description	Laboratory/ Institute
Bars, Length	Combination Length Bars with accessories	CMERI; NPL
Benches & Accessories	Optical, Spindler & Hoyer, Göttingen	CSIO
	Josephleech Photoelastic Photometric	CMRS; CBRI; CMRS; NPL
Binder, Rheological Apparatus	To study rheological properties of binders	NPL
Bridge, Dielectric	—	RRL, Hyd.
Bridge, Highvoltage Fault Location	—	CMRS
Bridge, Frequency	Frequency measuring bridge ORION KTS Wage No. KTS 1621 (Hungarian)	NML
	RF Bridge GR. 1606	NPL
Bridge, Impedance	Dawe Universal GR Type 1650 A	CBRI; CSIO
Bridge, Kelvin	For precise measurement of low resistance	NML
Bridge, Ohm	Megohm Bridge. GR Type 544 B	NML
Bridge, Strain	Portable Strain Gauge Bridge	CRRI
	Metrimpex Type ORION EMG 23535	CBRI
	Tinsley Strain Measuring Bridge	CBRI; CMRS
	Static Strain Measuring Bridge	CBRI
Bridge, Universal	—	ATIRA
	Institute Universal-TF 2701	CSIO
	TF 1313	CSIO
	Type BV-Z-13 B YUK Electric Works, Japan	CSIO
Calibration Equipment	Crystal Calibrator, Type TF 723A	CEERI
	Huggenberger Portable	CBRI
	Optical Pyrometers Calibrator	CGCRI; NPL
	Thermocouple Calibrating Equipment for temperatures up to 1063°C.	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Calorimeter	Automatic Adiabatic Bomb Calorimeter with accessories CB-040	CMERI
	B.T.L. Make	NPL
	Boy's Non-Recording Gas Calorimeter, No. AW 1887	CMERI
Camera, High Speed	Fastax 16 mm.	NAL
Capacitance Measuring Assembly	—	CGCRI
Carbon Brushes, Friction Tester	—	NPL
Circuit Magnification Meter	<i>See</i> Meter, Circuit Magnification	
Cardiograph, Electro	<i>See</i> Electrocardiograph	
Collimator, Auto	Autocollimator	CSIO; CMERI
Computer, Digital	Ferranti 'Sirius'	NAL
Conductivity Apparatus, Thermal	—	CBRI; NML; NPL
Control System Analyser	<i>See</i> Analyser, Control System	
Controller, Heating Rate	Type 4601-10-66A; A.T.C. USA	NML
Controller, Pressure	Pressure Recorder Model M-9253	IIP
Controller, Programme	WheelCo	NML
Controller, Temperature	Point Programme Temperature Controller	CBRI
	Proportional Temperature Controllers	NML
Controller, Thermometer	Electronic Proportional Resistance Thermometer Controller: Sunvic Type RT2	NML
Counter, Electronic	—	ATIRA; CBRI; CEERI; CMRS; CPHERI; RRL, Hyd.; NAL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Counter, G. M.	—	CLRI; CDRI; NML; RRL, Jammu
Counter, Scintilla- tion	Liquid Scintillation Counter, Tracer Lab. Semi-automatic with scaler	CDRI
Crystal Calibrator	<i>See</i> Calibration Equipment	
Data Processing Equipment	Data Handling system, Electronic Associates, UK	NAL
Densitometer/Density Apparatus	Apparatus for Apparent/Real Density	CLRI; RRL, Hyd.
	Optical Densitometer	CMRS; CBRI
Detector, Humidity	Lithium Chloride Humidity Detector with accessories TFL-4	CMERI
Detector, Leak	G.E. Hallide Type	NPL
	Mass Spectrometer Type	CEERI
Detector, Scintilla- tion	—	NCL
Diagnostic Set, Occulist's	Carl Zeiss	CSIO
Diffractometer	Philips	ATIRA
Digital Computer	<i>See</i> Computer, Digital	
Dynamometer	—	ATIRA; CRRI; NPL
Edge Runner	—	CBRI
Electrocardiograph	Hellige Model	CDRI
	Schwarzer Cardioscript III	RRL, Jammu
Electro-encephalo- graph	Direct Reading Schwarzer	RRL, Jammu
Electromagnet	A. D. Little	NPL
	Type EM-100	CECRI
	With Regulated Power Supply	CEERI

Instrument/Equipment	Description	Laboratory/ Institute
Electrometer	Dynacon Electrometer with PS-14 Harmonic free constant voltage Nuclear chicago model	NCL
	Electrometer with D.C. Amplifier modified for measurement of extra high resistance up to 1016 ohms	CGCRI
Vibron Electrometer		ATIRA
Electron Diffraction Camera & Accessories	—	NCL; CECRI
Electron Microscope	—	CDRI; CECRI; CLRI; NCL; CFRI; NML; NPL; CMRS
Encephalograph	See Electro- encephalograph	
Ergometer	—	CMRS
Ergostat	—	CMRS
Extensometer	—	CFTRI
Huggenberger Extensometers		CRRI
Lambs Mirror Extensometer		CBRI
Remote Control Extensometer		CBRI
Flow Meter	—	IOE
Fluid Net Work Analyser	See Analyser, Fluid	
Fluorescence Micro- scope	Reichert Model	IIBEM
Fluorescence Meter	Lumetron Photoelectric	RRL, Jammu
Frequency Meters	—	CEERI; NPL
Gamma Source	Cobalt 60 Irradiator	NCL
Gauge, Air	Mecer Air Gauge	CMERI
Gauge, Strain	—	CRRI; NAL
Gauss Meter	RFL Model 1890	NAL
Generator, Lens Curve	—	CSIO

Instrument/Equipment	Description	Laboratory/ Institute
Generators, Signal	—	CEERI; CRRI; CSIO; NML; NPL; ATIRA
Geophone	Model EVS-8A (4-5 c/s & 20 c/s)	NGRI
Gravity Meter	Worden Range up to 200 m.gal.	NGRI
Heater, Induction	7 kW.	NCL
Heating Rate Controller	<i>See</i> Controller, Heating Rate	
Humidity Detector	<i>See</i> Detector, Humidity	
Impedance Comparator	1-100 kc/s.	CGCRI
Indicator, Live Line	Live Line Indicator, 275 kV.	NAL
Indicator, Pressure	—	CMRS; NAL
Indicator, Sound Level	—	CMRS
Indicator, Strain	Portable Strain Indicator	CRRI
Indicator, Tempera- ture	12 Point, Cambridge make	NPL
Insulation Tester	—	CMRS
Interference Micro- scope	—	CDRI; RRL, Hyd.
Interferometer	Matrix Pedestal Model Interfero- meter with accessories	CMERI
	Petter NPL Direct Reading	CMERI
	TWYMAN Interferometer	NPL
	Precision Thermal Expansion Ap- paratus cum Interferometer, Leads and Northrup	NML
Ionization Chamber	—	CPHERI
Lanameter	Leitz Lanameter	CLRI
Leak Detector	<i>See</i> Detector, Leak	
Length Bars	<i>See</i> Bars, Length	
Lens Curve Generator	<i>See</i> Generator, Lens Curve	

Instrument/Equipment	Description	Laboratory/ Institute
Magnetic Particle Inspection Appa- ratus	Magnaflux	NPL
Magnetometers	BZ Range up to 15,000 γ ; Accu- racy 1 γ	NGRI
	QHM Range up to 50,000 (H); Accuracy 1 γ	NGRI
	Proton Magnetometer 'ELSEC', Range up to 60,000 γ and Accu- racy 1 γ	NGRI
	Torsion Magnetometers (Z) 'Aska- nia' Range up to 65,000 and Accuracy 1 γ	NGRI
Magnetrons, Pulser	Pulsers for Magnetrons up to 1 MW. peak output power	CEERI
Manograph	Kistler Manograph	IIP
Manometer, High Speed Electro	—	NAL
Meter, Admittance	GR HF Admittance Meter	NPL
Meter, Circuit Magnification	Marconi	CSIO; NML
Meter, Illumination	Lux Meter	CSIO
	Weston American Model Range 0-6/12/60/12/600 foot candles	CBRI
Meter, L. C.	Tektromix Inc., USA	CSIO
Meter, Microwave Power	EMG, Type 1382/B	CSIO
Meter, Noise	Objective Noise Meter	CMRS; NPL
Meter, Pressure Survey	Velometer Type Grahm's Appara- tus	CMRS
Meter, Radiation	Portable Radiation Survey Meter; Type 1652 B.	RRL, Jammu
	Portable Radiation Survey Meter; Type G.M. 298	RRL, Jammu
Meter, Reflection	—	CFTRI
Meter, Resistivity	—	NGRI
Meter, Survey	A.B.C. Survey Meter	CFTRI
	T. G. M. 268	RRL, Jammu

Instrument/Equipment	Description	Laboratory/ Institute
Microbarograph	'Askania'	CMRS
Micrometer Angle <i>Dehkor</i>	—	CMERI
Micrometer Syringe	'AGTA' Micrometer Syringe outfit	RRL, Jammu
Micrometer Height	Matrix Height Setting Micrometer with accessories	CMERI
Microphotometer	—	CMRS; CFRI; NML; NPL
Microradiograph	Contact Microradiograph	CLRI
Microscope, Metal	—	NPL
Microscope, Metal- lurgical	—	CFRI; NPL
Microscope, Metallographic	—	RRL, Hyd.
Microscope, Polarizing	—	CSIO; RRL, Hyd.; CBRI; CMRS; CGCRI; NPL; SASMIRA
Microscope, Phase Contrast	—	CLRI; IIBEM; RRL, Hyd.; CMRS
Microscope, Projection	—	ATIRA; CMRS; SASMIRA
Microscope, Stereo	—	IOE; RRL, Hyd. SASMIRA
'Bausch & Lomb' Model BKW-5 with Nicholas Illuminator		
Microviscometer	Sliding Plate Microviscometer	CRRI
Microwave Power Meter	See Meter, Microwave Power	
Monochromator, Grating	D 292 Model	CSIO
Monochromator, X-Rays	Plane & Crystal Monochromators	CFRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Noise Analyser	<i>See Analyser, Acoustic</i>	
Noise Generator	—	CSIO
Noise Meter	<i>See Meter, Noise</i>	
Nuclear Magnetic Resonance Unit	<i>See Resonance Apparatus</i>	
Optical Benches	<i>See Benches</i>	
Optical Rotary Table	O.M.T. 10" Optical Rotary Table	CMERI
Optical Jig Boring Machine	'Matrix' No. JB 240361	CMERI
Oscillator	Range 40-50 kV. (Type TF 1246) and range 20-30 M/L (Type TF 1247)	CSIO
	Wide Range Beat Frequency Oscil- lator ORION-EMG type	NML
	Wide Range Oscillator Model 200 CD	CSIO
	Audio Oscillator	ATIRA
	EMG Decade Oscillator Type 1281	CSIO
	Muirhead Wigan Decade Oscil- lator	NML
Oscillogram Processor	Type 23-109A-P6	NAL
Oscillographs & Oscilloscopes	Various types	ATIRA; CBRI; CRRI; CSIO; NAL; NML; NPL; RRL, Hyd.
Osmometer	—	ATIRA
Paramagnetic Reso- nance Spectro- meter	<i>See Resonance Apparatus</i>	
Pencils Impact Tester	—	NPL
Pencils Wear Tester	—	NPL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Permeability Apparatus	Lea & Nurse, Ridgen & Blain	NPL
	Water Vapour Permeability Appa- ratus 'Patra' Model	CFTRI
Photoelastic Bench	<i>See Benches</i>	
Photoelasticity Apparatus	—	CBRI
Photometer	Flame Photometer	CGCRI; CSMCRI; CBRI; NML
	Spherical Photometer Relegrator	CBRI
Submarine Photometer with 100 m. cable		IOE
Photometric Bench	<i>See Benches</i>	
Photomicrograph Camera	—	RRL, Hyd.; ATIRA
Photostress Equipment	Reflection Type Photostress Equip- ment	CMRS
Piezometer Set	—	CRRI
Polarimeter	—	ATIRA; CSMCRI; IIBEM; RRL, Hyd.; NBG
Polarograph	—	CBRI; CDRI; CLRI; RRL, Hyd.; CMRS; CGCRI; CSMCRI
Potentiometer, Electronic	Brown Honeywell Model No. 163- X-VI2-II-III-121R	NML
	Hartman and Braun-Polycomp 12 Channel recorder measuring 0-1600°C.	NCL
Strip Chart		CBRI

Instrument/Equipment	Description	Laboratory/ Institute
Potentiometer, Vernier	—	ATIRA; NML; NPL; CBRI; RRL, Hyd.
Potentiostat	—	CECRI
Precimeter	Reading .001 mm.	CMERI
Pressure Cell	—	CBRI; CRRI
Pressure Controller	<i>See</i> Controller, Pressure	
Pressure Indicator & Recorder	<i>See</i> Indicator, Pressure and Re- coders	
Pressure Survey Meter	<i>See</i> Meter, Pressure Survey	
Profilometer, Road	—	CRRI
Programme Controller	<i>See</i> Controller Programme	
Pyrometer Calibrator	<i>See</i> Calibration Equipment	
Q-Meter	50 kc/s to 70 kc/s.	CGCRI; RRL, Hyd.
Radiation Monitor- ing Equipment	<i>See</i> Counters and Meters	
Recorders	Electronic	CFTRI; IIP; NML
Recorder, Flow	Electronic Dynalog, Flow Recorder	CMRS
Recorder, Illumina- tion	Steam Flow Recorder	NML
Recorder, Level	Speedox for recording daylight illumination	CBRI
Recorder, Pressure, Strain, Stress & Temperature	—	CBRI; CMRS
	Differential Pressure (Command)	NML
	Pen Pressure Recorder (Bristol)	NPL
	Pressure and Temperature Recor- der (Honeywell)	NML
	Fifty-Way Static Strain Recorder	CBRI
	Six-channel Strain Recorder	CMRS

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
	Stress Recorder (Cambridge)	CBRI; CRRI
	Temperature Recorder	CMRS
	Temperature Recorder (Bristol)	NML
	Temperature Recorder (Elliott)	NML
	Temperature Recorder (12 pt Dynamoster)	CRRI
	Temperature recorder with accessories	IOE
Reflection Meter	<i>See Meter, Reflection</i>	
Refractometer	Abbe	CSMCRI
	Chance	CSMCRI
	Hilger	CGCRI
	Pulfrich	RRL, Hyd.
	Micro-Jelley with illumination Model No. 2400	CMRS
Refractive Index Apparatus	Double variation	CMRS
Resistivity Meter	<i>See Meter, Resistivity</i>	
Resonance Apparatus	Electrical Paramagnetic Reso- nance Spectrometer	NPL
	Equipment for longitudinal Reso- nance of Beam Specimens	CRRI
	Nuclear Magnetic Resonance Unit	NCL
Respirometer	—	CMRS
Scintillation Apparatus	Scintillation Probe Apparatus for alpha particles	RRL, Jammu
Scintillation Counter	<i>See Counter, Scintillation</i>	
Shear Apparatus	Direct Shear Apparatus	CBRI
	Shear Box Constant Rates of Strain	CRRI
	Triaxial Shear Equipment	CBRI
	Soil Shear Machine	CBRI
Signal Generator	<i>See Generators, Signal</i>	
Slip Gauge	—	CMERI; NPL

Instrument/Equipment	Description	Laboratory/ Institute
Solarscope	Type C.D. 518	CBRI
Sonagraph	Speech Analysis	CEERI
Sonic Material Analyser	See Analyser, Sonic Material	
Sound Level Mea- suring and Re- cording Equipment	—	CBRI; NAL; NPL
Spectrofluorometer	Ferrand Optical Co.	IIBEM
Spectrograph	Hilger Spectrograph, Automatic	CECRI
	Quartz Spectrograph	CFRI; NPL; CMRS
	Leitz Double Beam Non-Record- ing Infrared Spectrograph with sodium chloride optics	CFRI
	Hilger Double Beam Infrared Spectrograph	NPL
Spectrometer	Research Spectrometer	NPL
Spectrometer, Mass	Metropolitan Vickers Ms2 Mass Spectrometer	CFRI
Spectrometer, Scintillation	—	NCL
Spectrophotometer	—	CFTRI
	Baush and Lamb Spectronic 20 Colorimeter Spectrophotometer	RRL, Jammu
	Beckman DU Model	CGCRI; ATIRA; CMRS; CPHERI; CECRI; SASMIRA; CDRI; CLRI; RRL, Hyd.
	G.E. Recording Spectrophotometer	CGCRI
	Hilger	CECRI; CSMCRI; CGCRI; NBG
	Hitac	CBRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Infracord	IIP; IIBEM; ATIRA	
Infrared Spectrophotometer	NCL; CDRI; RRL, Hyd., CGCRI	
Perking Elmer, Model No. 350	CPHERI	
Ultraviolet Spectrophotometer	NCL	
Unicam	CDRI; CECRI; IIBEM; IOE; CFRI; CDRI	
Uvispeck	CGCRI	
Visible Range	RRL, Hyd.	
Speech Analyser	<i>See</i> Sonagraph	
Speedometer, Shirley	—	SASMIRA
Strain Analyser, Gauge, Indicator & Recorder	<i>See</i> Analyser, Strain; Bridge, Strain; Indicator, Strain; Gauge, Strain and Recorders	
Stress, Photo	<i>See</i> Photostress Equipment	
Tacheometer Theodolite	Carl Zeiss, Jena	CSIO
Telescope, Astrono- mical	—	BITM; NPL
Television Set	Closed circuit Television Set (T. V. camera type EL 5820/01 with lenses)	BITM
	Television, Camera, Receiver & other allied equipment	BITM
Temperature Controller	<i>See</i> Controller, Temperature	
Temperature Indicator	<i>See</i> Indicator, Temperature	
Temperature Recorder	<i>See</i> Recorder, Temperature	
Temperature Scale	Equipment for realizing the fixed points of the International Temperature Scale	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Tensometer	Houndsfield Model	CFTRI; CMRS
Test Equipment, Earth	Type A in metric execution with accessories	CMERI
Test Equipment, Temperature	Earth Testers (Low Range)	NGRI
Test Equipment, Thermal Shock	Megger Geophysical Earth Testers (with generator) Range 0-30 ohms	NGRI
Test Equipment, Transistor	Composite equipment for testing thermostats, pipe thermometers, surface pyrometers, temperature rise in switches, etc.	NPL
Test Equipment, Klystron	For use between room tempera- ture and 100°C. (nominal)	NPL
Test Equipment, Vacuum	ORION, EMG 1816 IBSP No. 00429 (Jungarian)	NML
Test Equipment, Valve	Tester	CEERI; NPL
Test Equipment, Vibration	—	NML
Test Equipment, Wave Guide	Avo Ltd, England	CSIO
Thermal Conducti- vity Apparatus	—	CECRI
Thermal Expansion Apparatus cum Interferometer	S-Band Coaxial (low power) and Wageguide (low and high power) General Test Equipment	CEERI
Thermo Balance	X-Band Waveguide (low and medium power) General Test Equipment	CEERI
Thermocouple Calibrator	<i>See</i> Conductivity Apparatus, Thermal	NML
Thermograph	<i>See</i> Balance, Thermo	IOE
Thermohydrograph	<i>See</i> Calibration Equipment	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Thermohygrograph	'Theis' No. 620 for automatic recording of relative humidity and temperature	SASMIRA
Thermometer, Bucket	Bucket Thermometer	IOE
Thermometer Calibrator	<i>See</i> Calibration Equipment	
Thermophygrograph	Negrette & Zembra 5675	CBRI
Timer Counter	Timer Counter Type TCIA Range IMC/S	CSIO
Timer, Micro	—	CMRS
Tracer, Curve	Transistor Curve Tracer (Tektronics)	CEERI
Transducer, Pressure		CMERI; NAL
Transformer, Differential	Linear Variable Differential Transformer	CRRI; NAL
Transmitters, Convergency	—	CMRS
Transmitters, Displacement	—	CMRS
Transmitter, Pressure	—	CMRS
Transmitter, Strain	—	CMRS; IOE
Ultrasonic Equipment	—	NPL; NAL
Ultrasonic Disintegrator	—	CDRI; CGCRI; CLRI; RRL, Hyd.
Ultrasonic Generator	—	NCL
Vacuum System	Central Vacuum System, Capacity 60 cfm.	RRL, Hyd.
	Spare Current Power Valve, Red Band	IOE
	Spare Electrometer Valve, White Band for amplifier circuit	IOE
Vacuum Test Equipment	<i>See</i> Test Equipment, Vacuum	

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Valve Tester	<i>See Test Equipment, Valve</i>	
Vibrascope	'Manra' for measuring denier of continuous filaments	SASMIRA
Vibration Generator	Philips Model 790	NAL
X-Ray Analysis Unit	Raymax X-Ray Analysis Unit No. AB-490 (A.E.I.)	NML
X-Ray Diffraction Apparatus	—	ATIRA; CECRI; CFRI; NCL; RRL, Hyd.
X-Ray Diffractometer	Philips, No. PKI 1050, No. PW 1051	NML
X-Ray Equipment	Generator	ATIRA; CGCRI;
	Mobile, Mass-Miniature	CMRS
	Monochromator	CFRI
	Phillips	CFRI
	Rotating Anode	RRL, Hyd.
	X-Ray Equipment for detection of flaws, discontinuity, cracks, etc.	NPL
X-Ray Fluorescence Spectrograph	—	ATIRA; CGCRI; IIBEM; NML
X-Ray Radiograph	—	CMRS
X-Ray Scattering Apparatus	—	ATIRA
X-Ray Spectrometer	Philips	NML

Section 2 : Chemical & Technological Equipment

Instrument/Equipment	Description	Laboratory/ Institute
Acetylizer	Capacity 8 lit.	RRL, Hyd.
Air Sampler	<i>See Sampler, Air and Separator, Air</i>	
Amino Acid Analyser	<i>See Analyser, Amino Acid</i>	
Amylograph	—	CFTRI
Analyser, Amino Acid	Spinco	IIBEM
Analyser, Carbon	—	NPL
Analyser, Gas	Lloyds, Medical, and Schelander	CMRS
Analyser, Oxygen	Beckman Model No. F 3 and Honeywell Brown Recorder Code 4369	NML
Analysis Equipment, Concrete	For analysis of freshly mixed concrete CT 27	CBRI
Autoclave	Capacities 1, 2, 10, 15, 20 and 50 litres	RRL, Hyd.
	Electric Pressure Autoclave	CBRI
	Electrically heated, 200 p.s.i.	CGCRI
	High Pressure Autoclave	CRRI
	High Pressure, Capacity 1 lit. and 2 lit.	CFRI
	Vertical Type with accessories	IOE
	<i>See also Furnaces and Oven</i>	
Ball Mill	BTL Model & Laboratory Model	SASMIRA
	Kusum, 3 ft × 3 ft	NPL
	Porcelain lined	CGCRI
	Rubber lined	CGCRI
	Stainless steel, Capacity 50 kg.	RRL, Hyd.
Bath, Sludge	Sludge Bath Apparatus complete for size determination, electrically heated	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Bitumen Extractor	—	CRRI
Bitumen Mixing Plant	Parker	CRRI
Blender	Capacity 5 kg. Capacity 50 lb.	RRL, Hyd. CFTRI
Blood Gas Apparatus	Warburg Refrigerated Model	CPHERI
Blunger	For clay blunging	CGCRI
Bridge, Conductivity	Jones LKB	RRL, Hyd. ATIRA
Carbon Analyser	See Analyser, Carbon	
Centrifugal Molecular Still	Capacity 1½ lit.	CFTRI
Centrifuge	Chemida Rotafix Centrifuge Sharples Super Centrifuge Super Centrifuge	RRL, Hyd. SASMIRA CBRI; CFTRI; CGCRI CSMCRI; RRL, Hyd.
	Type EO SBV Westfalia Self-opening SAOG 2015, Capacity 3000 lit.	NML CFTRI
Centrifuge, Basket	Westfalia Multipurpose Capacities 5, 8, 10, 12 kg. Escher Wyss Horizontal Fletcher	CFTRI RRL, Hyd. CFTRI CFTRI
	Sharples Centrifuge, Capacity 500lit. Suspended Basket Centrifuge	RRL, Hyd. CFTRI
Centrifuge, Clinical	With 2 centrifuge heads, 40 centrifuge tubes	IOE
Centrifuge, International	—	ATIRA
Centrifuge, Nozzle	De laval	CFTRI
Centrifuge, Refrigerated	—	CDRI; CFTRI; CLRI; RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
Centrifuge, Ultra	—	CPHERI; IIBEM; NCL; RRL, Hyd.
Chromatography Apparatus	Column Chromatography Appa- ratus	CLRI
	Pan Chromatograph for analysis of mine air	CMRS
	Pye Argon Gas Chromatograph	ATIRA
	Vapour Phase Chromatography Apparatus	CECRI; CEERI; CLRI CPHERI; CFRI; NCL; RRL, Hyd; IIBEM
Classifier, Grit	To separate grit from clay, Capa- city 10 kg./hr, continuous	RRL, Hyd.
Classifier, Groundnut	—	CFTRI
Coke Number Apparatus	Ramsbottom Model	NPL
Colorimeter	Donaldson Trichromatic	CGCRI
	Bausch & Lomb	CSMCRI; ATIRA
	Coleman Nepho	CPHERI
	Hilge	CMERI
Concrete Analyser	<i>See</i> Analysis Equipment, Concrete	
Consistometer	—	CRRI
Countercurrent Extractor	<i>See</i> Extractor, Countercurrent	
Crockmeter	—	CLRI; SASMIRA
Crusher	4"×6" Dodge Crusher	CBRI
Crusher, Jaw	5"×7" Size	CBRI
Crusher, Roller	Capacity 50 kg./hr, continuous	RRL, Hyd.
Crystallization Plant	Low Temperature Crystallization	RRL, Hyd.
Crystallizer	Capacity 50 lit.	RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
Dehulling Plant, Cottonseed	Capacity 20 tons/day (24 hours)	RRL, Hyd.
Dehydrator	Contact Plate Dehydrator	CFTRI
Delinting Plant, Cottonseed	Capacity 5 tons/24 hours	RRL, Hyd.
Densometer	'Curley' for air resistance of fabrics	SASMIRA
Differential Thermal Analysis Apparatus	Automatic Recording	CGCRI
Digestor, Rotary	Deltatherm	NML
Dilatometer	Capacity 15 lit.	RRL, Hyd.
Distillation Apparatus	Ranges up to 1000°C. and 1550°C.	CGRI
	Interferometric	RRL, Hyd.
	All Glass Distillation Unit, Capacity 100 litres	CFRI
	Distillation Assembly pressures up to 60 p.s.i.g. with mechanical stirrer and condenser and receiver, Pfaudler Model	CFTRI
	Capacity 50 litres	RRL, Hyd.
	Capacity 100 litres	RRL, Hyd.
	Podbielniak Distillation Column	NCL
	Enamelled Iron Distillation Units, Capacity 20 litres	RRL, Hyd.
	QVF. All Glass Assembly, Capacity 20 & 50 litres	RRL, Hyd.
	Thermocon Podbielniak Low Temperature Distillation Unit	CFRI
	Molecular Distillation Unit	NCL
	Fatty Acid Distillation Plant, Capacity 100 kg./batch	RRL, Hyd.
	<i>See also</i> Reaction and Distillation Units	
Drier	Flash Drier	CFTRI
	Flow Drier	CFTRI
	Freeze Drier	CDRI; CFTRI; IIBEM; NCL; RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
	Incubator Drier for Fungal Diastase	CFTRI
	Open Drum, Capacity 4-5 gal/hr	CFTRI
	Ring Drier, Capacity 15 kg. water evaporation per hour	CFTRI
	Rotary Louvre Drier, Maximum Air Temp., 250°C.	CFTRI
	Rotary Vacuum Drier	CFTRI; NCL
	Spray Driers	CFTRI
	Spray Drier, Capacity 10 kg. water per hour	RRL, Hyd.
	Tray Drier, Automatic Temperature Control, Capacity 40 kg.	RRL, Hyd.
Drying Machine	Vacuum Drier Chamber	NCL
	Vacuum Shelf Drier	CFTRI
	Vacuum Twin Drum Drier	CFTRI
Drying Machine	Small Scale Cylinder Drying Machine	ATIRA
Dust Sampler	<i>See Sampler, Dust</i>	
Dyeing Machine	'Krantz' Laboratory Scale Dyeing Machine	SASMIRA
	Laboratory Cheese Dyeing Machine	ATIRA
Electrolysis Plant, Water	—	RRL, Hyd.
Electrophoresis Apparatus	—	ATIRA; CDRI; CFTRI; CLRI; IIBEM; RRL, Hyd.
Elutriator	—	CGCRI; CBRI
Emulsifier	Sonic Emulsifier	CLRI
Emulsor	Laboratory Hunter's Emulsor	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Evaporator	Citrus Juice Processor, Capacity about 40 lb. juice/min.	CFTRI
	Climbing and Falling Film Evaporators, Capacity 60 & 400 lb./hr	CFTRI
	Cyclone Evaporator	CDRI
	Devenport Dewatering Machine	CFTRI
	Forced Circulation Evaporator, Capacity 30-60 lb./hr	CFTRI
	Majnonier Low Temperature Evaporator, Capacity 25 lb. water	CFTRI
	Pfauler Open Pan Evaporator, Capacity 100 litres	RRL, Hyd.
	Thin Layer Evaporator	CFTRI
Extracting Machine, Leaf	—	RRL, Jammu
Extraction Column	York Schieble, Capacity 4.5 lit./hr	RRL, Hyd.
Extractor, Counter-current	—	NCL
Extractor, Hydro	—	SASMIRA
Extractor, Liquid-liquid	Jena, Capacity 10 litres	RRL, Hyd.
Extractor, Solid-Liquid	Jena, Capacity 20 litres	RRL, Hyd.
Extractor, Vertical	—	CFTRI
Fadeometer	Atlas Fadeometer	ATIRA
Fader	Gas Fader to test colour fastness of dyes	SASMIRA
Fat Splitting Plant	Capacity 10 kg./batch	RRL, Hyd.
Fatty Acid Distillation Plant	Capacity 100 kg./batch	RRL, Hyd.
Fibrograph	Digital Fibrograph	ATIRA; SITRA
Fibre	See Yarn and Textile	
Filter Drum	Oliver Rotary Vacuum Filter Drum	RRL, Hyd.
Filter, Ferro	'Frantz' Ferro Filter	CGCRI
Filter Press	—	CGCRI

Instrument/Equipment	Description	Laboratory/ Institute
Filter, Pressure	Pressure Leaf Filter	CFTRI
Filter, Vacuum	Vacuum Can Filter, Minimum speed 72 cans/min.; Max. speed 250 cans/min.	CFTRI
Flaking Rolls	—	CFTRI
Flaking Unit, Cottonseed Meat	Capacity 10 tons per 24 hours	RRL, Hyd.
Flash Point Apparatus	Abel's Flash Point Apparatus B.T.L. Make	NPL
	Pensky Martins Flash Point Apparatus	CBRI; NPL
Flouring Unit, Cottonseed Cake	Capacity 6 tons of cake per hour	RRL, Hyd.
Fluorimeter	Farrand Photoelectric Fluorimeter	CPHERI
	Lumerton Fluorimeter	CDRI
Fractionation Assembly	Capacities 500 ml. to 50 lit.	RRL, Hyd.
Fractionation Collector	Automatic Fraction Collector; Model No. S. P. 1000	CDRI
Fractionation Column	General purpose, Capacity 50 lit.	RRL, Hyd.
	Martin's Spinning Band Column, Capacity 5-40 ml.	RRL, Hyd.
	Piros-Glover Spinning Band Fractionation Column	CFRI
	Tower's Fractionation Column	NCL
Freezer	Spin Freezer	RRL, Hyd.
Furnace	Ajax Northrup	CECRI
	Rod-O-Glow Bar Furnace	CRRI
	Arc 100 kVA., Capacity 50 kg.	CGCRI
	Diffusion Furnace	CEERI
	Harper Electric Furnace	CGCRI
	Heatreat Rectangular Horizontal Electric Furnace	CBRI
	Electric Combustion Furnaces	IIP
	High Frequency Furnace	NML
	Barlow Whitency, Electrically Heated	NPL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
	Inductive Furnace	NPL
	Tank Melting Furnace	CGCRI
	Oil Fired Rotary Furnace	NCL
	Soil Burning Furnace	CRRI
	P.C.E. Testing Furnace for fusion points	CGCRI
	R.U.L. Testing Furnace for Re- fractory underload	CGCRI
	Controlled Atmosphere and Vacuum Furnace (Different types)	CEERI
	Vacuum Furnace	CMRS; NML; NPL
Gas Analyser	<i>See Analyser, Gas</i>	
Gas Flow Gauge	—	CMRS
Gas Meter	<i>See Meter, Gas</i>	
Glycerine Recovery Plant	Capacity 100 kg. per batch	RRL, Hyd.
Granulating Machine	Rotary Disc type, Capacity 20 kg./hr	RRL, Hyd.
	Universal	NPL
Grit Classifier	<i>See Classifier, Grit</i>	
Groundnut Classifier	<i>See Classifier, Groundnut</i>	
Helium Liquefier	<i>See Liquefier</i>	
Homogenizer	Ultrasonic	SASMIRA
Hydrogenation Apparatus	Continuous Catalytic Hydrogena- tion Apparatus	CFRI
	'Parr' Hydrogenation Apparatus	CLRI
Hydrogenator	Tar Hydrogenation Plants	RRL, Hyd.
	Medium Pressure Hydrogenator, Capacity 1 litre	RRL, Hyd.
	High Pressure Hydrogenator, Capacity $\frac{1}{2}$ litre	RRL, Hyd.
Hydrorefining Unit	Continuous Bench Scale Hydro- refining Unit, Capacity 60 ml.	RRL, Hyd.
Indicator, pH	Direct Reading (Zeromatic) Beckman Model No. 9601-U	NML

Infrasizer	For pulverizing to micron size of materials by compressed air	CMRS
Liquefier	Collins Helium Liquefier (1952)	NPL
	Philips Nitrogen Liquefier	NPL
Liquid Air Plant	—	NCL; NPL; RRL, Hyd.
Lubricating Oil Test Rig	—	IIP
Meter, Air Entrainment	—	CBRI
Meter, Gas	CO/CO ₂ Gas Meter and Recorder	NML
Meter, Moisture	Textile Moisture Meter	SASMIRA
	Timber Moisture Meter	CBRI
Meter, pH	Beckman pH Meter	CBRI; CRRI; NML; SASMIRA
	Marconi pH Meter T.F. 889	CBRI
	Industrial pH Meter, Beckman Model W	NML
	Type 958D	IOE
Meter, Protein	—	CFTRI
Meter, Reaction Time	Porto Clinic Reaction Time Meter	CRRI
Meter, Tension	Shirley Weft Unwinding	SASMIRA
Meter, Textile Fade	—	ATIRA
Meter, Yarn Lusture	—	BTRA; SASMIRA
Mica Classification Apparatus	For electrical classification of mica blocks and films	CGCRI
Microatomizer	Capacity 30-150 lb. product/hr	CFTRI
Microelectrophoresis Apparatus	—	RRL, Hyd.
Microfuges	—	CFTRI
Micromanipulator	Leitz	IIBEM
Micropulverizer	Capacity up to 2 kg./hr, continuous	RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
Mill, Colloid	Colloid Mills	CFTRI
Mill, Comminuting	Apex Comminuting Mill	NPL
	Comminuting Mill driven by a 5 HP motor	CFTRI
Mill, Disc	Capacity 40 kg./hr	RRL, Hyd.
	Pin Disc Mill Minikek, Capacity 25 kg./hr, continuous	RRL, Hyd.
Mill, Hammer	—	CBRI
Mill, Laboratory	Raymond, Capacity 4 kg./hr	CBRI
Mill, Minikek	—	CECRI
Mill, Pot	Capacity 1.5 lit.	RRL, Hyd.
Mill, Pug	Deairing Pug Mill	CGCRI
	Kusum Deairing Pug Mill	CBRI
Mill, Roll	Granite Triple Roll Mill	CFTRI
	Motorized Pascall Triple Roll Mill	CBRI
	Triple Roll Mill	RRL, Hyd.
Mixer, Colour	—	SASMIRA
Mixer, Trough	'U' Trough Mixer for pilot plant work on fungal diastase	CFTRI
Mixing Machine	Kaydee Mixing Machine	NPL
Moisture Meter	See Meter, Moisture	
Nitrogen Liquefier	—	NPL
Oil Expeller	Capacity 30 kg. seed/hr	RRL, Hyd.
	With cake crushing device between them; 15000-20000 p.s.i.	RRL, Hyd.
Oil Refining Unit	Batch Oil Refining Unit, Capacity 25 kg.	RRL, Hyd.
	Batch Oil Refining Plant, Capacity 500 lit.	RRL, Hyd.
	Capacity 9 lit.	RRL, Hyd.
	'Westfalia' Continuous Oil Refining Plant, Capacity 80 lit./hr	RRL, Hyd.
Oven, Conditioning	'Shimadzu' Balance, Capacity 1000 g. for determining moisture in textile	SASMIRA

Instruments/Equipment	Description	Laboratory/ Institute
Oven, Plastic	Plastic Annexing Oven	CBRI
Oven, Vacuum	Vacuum Drying Oven	CPHERI
Oxygen Analyser	<i>See</i> Analyser, Oxygen	
Particle Sizer	—	RRL, Hyd.
	<i>See also</i> Infrasizer, Separator, etc.	
Pasteurizer	Milk Plate Pasteurizer, Capacity 50 gal./hr	CFTRI
	Spin Pasteurizer	CFTRI
Penetrometer, Cone	North Dakota Cone Penetrometer	CRRI
Petrometer	Fuel consumption rate	IIP
Permeater	Constant Head Permeater	CRRI
pH Indicator	<i>See</i> Indicator, pH	
pH Meter	<i>See</i> Meter, pH	
Pitch Test Equipment	<i>See</i> Test Equipment, Pitch	
Plasticity Apparatus	Atterberg Model	CGCRI
Polymerizing Cabinet	Spooner Polymerizing Cabinet	SASMIRA
Precipitator, Thermal	Long Running Thermal Precipitator	CMRS
Protein Meter	—	CFTRI
Psychrometer	High Temperature Psychrometer	ATIRA
	'Theis Asmann' Aspiration Psychrometer for measuring relative humidity	SASMIRA
Quenching Unit	Type Q 10A	RRL, Jammu
Reaction and Distillation Units	QVF. General purpose all-glass reaction and distillation unit, Capacity 50 lit.	RRL, Hyd.
	Downtherm Heated Reaction Kettle Unit	NCL
	Pfaudler Glass Lined Reaction Kettles, two units 20 and 50 gal. capacity, for reactions under pressure up to 60 p.s.i.g.	CFTRI
	Glassote Reaction Vessel, Capacity 100 lit.	RRL, Hyd.
	Shinko Pfaudler Reaction Vessel, Capacity 100 lit.	RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
Recorder, Density	Pulp Range 1.1 to 1.5 4 Massco Adams, USA Model	NML
Resin Plant	Carl Canzler, Capacity 50 lit. Kestner, Capacity 35 lit. Mitchel, Capacity 25 lit.	RRL, Hyd. RRL, Hyd. RRL, Hyd.
Salinometer	Conductivity type	IOE
Sampler, Air	Hexhlet Air Sampler	CMRS
Sampler, Dust	M.S.A. Electrostatic Dust Sampler M.S.A Midget Dust Sampler	CMRS CMRS
Sampler, Sand	Bishop Sand Sampler	CBRI; CRRI
Sand Sieving Machine	See Sieving Machine, Sand	
Sedimentation Apparatus	—	CMRS; NPL; RRL, Hyd.
Separator, Air	5 kg./hr	RRL, Hyd.
Separator, Dynamic	—	NML
Separator, Electrostatic	Capacity up to 50 kg./hr, continuous Kipp-Kelly Ltd, Model No. 2040 Cross Belt type, Model HS 218 High Tension Separator	RRL, Hyd. NML NML
Separator, Isodynamic	Isodynamic separator for the separation of feebly magnetic mineral particles to obtain samples of high purity for chemical, spectroscopic and other examinations.	CMRS
Separator, Magnetic	Capacity up to 20 kg./hr, continuous Isodynamic Model L-1 'Frant' with self contained silicon rectifier SI No. 432	RRL, Hyd. CMRS
Separator, Particle Size	Laboratory Separator for particle size	CMRS
Shaker, Rotary	—	RRL, Jammu CRRI
Sieving Machine, Sand	Electro Sand Sieving Machine	

Instrument/Equipment	Description	Laboratory/ Institute
Sinter Plant	Capacity 350 sq. cm. area batch-wise	RRL, Hyd.
Size Determination	<i>See</i> Bath, Sludge	
Sizer, Particle	<i>See</i> Particle Sizer and Separator	
Sizing Machine	—	ATIRA; SASMIRA
Softening Point Apparatus	—	CRRI
Soil Test Kneading Compactor	—	CRRI
Solvent Extraction Plant	Horizontal Solvent Extraction Unit, Capacity 7 cwt.	CFTRI
	Luwesta Solvent Extractor 6200 r.p.m., Capacity 500 lit.	RRL, Hyd.
	Merz Solvent Extraction Plant, Capacity 50 kg.	RRL, Hyd.
	Podbielniak Centrifugal Solvent Extraction Unit	NCL
Spinning Band Microcolumn	—	NCL
Stabilometer	Hycem	CRRI
Sterilizer	High Pressure Vacuum type	CBRI
Tension Meter	<i>See</i> Meter, Tension	
Test Equipment, Air Permeability	—	CLRI
Test Equipment, Jelly	Jelly Testers	CFTRI
Test Equipment, Mica	Mica Test Set for electrical classification of mica blocks and films	CGCRI
Test Equipment, Moisture	Infra-red Moisture Tester	BTRA
Test Equipment, Oil	Insulation Oil Test Equipment	NAL
Test Equipment, Pitch	Kraemer & Sarnow Pitch Test Apparatus	CRRI
Test Equipment, Water Absorption	—	CBRI
Test Equipment, Water Permeability	—	CBRI

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Water Repellency	'Bundesmann'	SASMIRA
Textile Fade Meter	<i>See Meter, Textile Fade</i>	
Tissue Processor	Elliot Tissue Processor	CLRI
Titrator	Automatic Titrator	CSMCRI; RRL, Hyd.
	Karl Fischer Titrator	CLRI
	Serfass Titrimeter	CLRI
Towers, Insecticide	Petters Insecticide Spring Towers	RRL, Jammu
Turbidimeter	'Wagner' Turbidimeter	NPL
Tyndalloscope	—	CMRS
Ultra Microsystem	Beckman Ultra Microsystem for ultra micro-biochemical analysis	IIBEM
Ultramicrotome	Phillips Ultramicrotome	CDRI
Ultrasonic Disin- tegrator	<i>See Section 1</i>	
Vacuum Coating Plant	—	CFRI
Vacuum Evapora- tion Unit	—	NPL
Vacuum Fusion Apparatus	—	NML
Viscometer	'Shirley' X-type for detecting and measuring chemical degradation of textiles	SASMIRA
	Viscometer Bath	IIP
	Stormer Improved model	CBRI; ATIRA
Viscometer, Low Temperature	—	CGCRI
Viscometer, Slag	—	CFRI
Viscometer, Torsion	Gallenkamp Universal for determi- nation of viscosity of pastes, solutions, etc.	SASMIRA
	Model No. TF 1041-C with acces- sories; case No. TM 4935	CSIO
Yarn Abrasion Tester	—	BTRA
Yarn Lustre Meter	<i>See Meter, Yarn Lustre</i>	
Warp Tension Ratio Apparatus	Metrimpex	SASMIRA

Section 3 : Mechanical & Workshop Equipment

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Abrasion Testing Machine	<i>See</i> Test Equipment, Abrasion	
Accelerometer	Shirley	SASMIRA
Ager	Laboratory, Star	SASMIRA
Air Compressor	<i>See</i> Compressor, Air	
Analysis Equipment	Mechanical Analysis	CBRI
Beam Breaker	Portable Beam Breaker	CRRI
Bearing Ratio Reduction Apparatus	—	CBRI
Brick and Block Making Machine	Land Crate	CBRI
Cement and Concrete Testers	<i>See</i> Test Equipment	
Centering Machine	Universal Automatic Type WG. Wilhelm Low Weltzar	CSIO
Compaction Apparatus	Mechanical Compaction Apparatus	CBRI
Comparator, Level	P.V.E. Level Comparator, Wall type with accessories	CMERI
Compressor, Air	20,000 cu. ft capacity, AEI (i) Kirloskar Breemwade Type 3 (ii) Portable	NAL } CBRI
Compressometer, Swing	—	CBRI
Concrete Vibrator	<i>See</i> Vibrator, Concrete	
Concretor, Pneumatic	Boulder	CBRI
Consolidation Apparatus	High Capacity Consolidation Apparatus	CRRI
Counter, Yarn Filament	'MANRA'	SASMIRA
Crack Detector	<i>See</i> Detector, Crack	
Crane	Mobile/Hydraulic/Electric	CBRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Cylinder, Thread Measuring	—	CMERI
Defectograph	—	CMRS
Deformeter	Beggs type	CBRI
	Huggenberger type	CBRI
Detector, Crack	Magnetic Crack Detector	CMRS
Detector, Flaw	Ultrasonic Flaw Detector	CBRI; CMERI; CMRS; NPL
Diesel Engine Indicator	Dobbi's Diesel Engine Indicator	NPL
Drill	Earth Auger Drill, Acker Model All Purpose	CRRI
	Mullard Ultrasonic Drill 60 watt.	CMERI
	Acker Core Drilling Machine	CBRI
	Pusco Model P.M.D. 2002 cap. Vertical Filler Drilling Machine	CBRI
	Radial Drilling, Loosening, Lapping Studding Machine	CBRI
Engine, C.F.R.	To study octane rating of motor gasoline	IIP
Engine, Lubricants Testing	Caterpillar Engine	IIP
	Kirloskar Engine for testing lubricating oils	IIP
Engraving Machine	—	CBRI
Extrusion Machine	Rawdon Model	NPL
Extrusion Press	Capacity 20 tons	NPL
	Capacity 200 tons	NPL
Flaw Detector	See Detector, Flaw	
Glass Working Lathe	—	NCL; NPL
Gritting Machine, Road	—	CRRI
Hacksaw Machine	—	
Hammer, Forging	Pneumatic	CBRI
Hardness Tester	See Test Equipment, Hardness	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Hydraulic Jack	Various Types	CBRI
Hydraulic Press	Laboratory Carver Hydraulic Press	CFTRI
	M.N. Hydraulic Press	NCL
	19 tons Daniel	NPL
	50, 60, 200 tons presses	CGCRI
Hydraulic Pressure Testing Machine	<i>See Test Equipment, Hydraulic Pressure</i>	
Impact Tester	<i>See Test Equipment, Impact</i>	
Jig Borer	BCA Mark III	CMERI
Jigger	Benninger Maneklal Automatic Jigger	SASMIRA
	Laboratory Jigger	SASMIRA
	Smiths' Laboratory High Temperature Pressure Dye Jigger	SASMIRA
Lapping Machine	'Cutrock'	NGRI
Loom	Canvas Loom	SASMIRA
	Drop Box Looms	SASMIRA
	Plain Looms	SASMIRA
	Weaving Loom with sample Warping Machine	SASMIRA
Measuring Equipment	Contact Angle	CFRI
	Various types (diameter, lead, pitch, roundness, surface, universal, etc.)	CMERI
	Talysurf	NAL
Mechanical Analysis Equipment	—	CBRI
	Hunter Laboratory, Lustre Meter	BTRA
Milling Machine	Precision Milling Machine Contec No. 2 A	CBRI
Planer	B.I.M. Sharda Heavy Duty Precision planer	CBRI
Press, Hydraulic	Hydraulic Press Block	CBRI
Prestressing Equipment	Macoll 642	CBRI

Instrument/Equipment	Description	Laboratory/ Institute
Projector Profile	—	CMERI; NPL; NAL
Saw, Circular	—	CBRI
Shaping Machine	12½ Stroke Geared Shaping Machine	CBRI
	Crown Thorn Stroke Shaping Machine	CBRI
Sine Centres	Sine Centres 25" with accessories	CMERI
Slotting Machine	—	CRRI
Spark Erosion Machine	Spark Erosion Machine with accessories	CMERI
Spark Plug Tester	See Test Equipment, Spark Plug	
Specimen Trimmer	Consolidation Specimen Trimmer	CRRI
Spinning Plant	Shirley Miniature Spinning Plant for small scale spinning from 45-50 g.	SITRA
Spintester	S.K.F. Spintester	ATIRA
Tablet Compressing Machine	Strokes Models DDS2, R3	NPL
Tablet Making Machine	50 tablets/min.	RRL, Hyd.
Tableting Machine	—	NPL
Tensile Strength Tester	See Test Equipment, Tensile Strength	
Tension Feeler	'Baen' Tension Feeler for threads; type HBC; Capacity (i) 100 g. (ii) 1000 g.	SASMIRA
Tensionmeter	Metrimpex hand type Tensionmeter Model 5-63-1	SASMIRA
Test Bench, Engine	Perkins Engine Multicylinder	IIP
Test Equipment	Crown Precision Square Tester with accessories	CMERI
	TC-1-Circular Division Tester with accessories	CMERI
Test Equipment, Abrasion	Abrasion Testing Machine for wear and tear test	CBRI; CECRI
	'Los Angeles' Abrasion Testing Machine	CBRI; CRRI
	Rubber Abraser 'AMINCO'	CLRI
	Taber Abraser	CLRI

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Ballistic	Metrimpex Ballistic Tester Model 5-21-1, for determining strength of yarn	SASMIRA
Test Equipment, Bending Strength	Fibre Bending Strength Tester	BTRA
Test Equipment, Building Material	Universal Building Material Testing Machine P.G. 7880-500 tons	CBRI
Test Equipment, Bursting Strength	Mullen Bursting Strength Tester	CFTRI
	Schopper Bursting Strength Tester for jute, paper, etc.	CFTRI
	'Mullen' Burst Strength Tester Model C for testing bursting strength of textile fabrics	SASMIRA
Test Equipment, Carbon	Equipment for testing of projection carbon such as projector and rectifier unit	NPL
Test Equipment, Cement	—	CBRI
Test Equipment, Cloth Density	'Metrimpex' Cloth Density Tester with transillumination, Model 6-42-1	SASMIRA
	<i>See also</i> Test Equipment, Yarn	
Test Equipment, Cloth	—	BTRA
Test Equipment, Compressibility & Resistance	—	CLRI
Test Equipment, Compression	K.C.P. Triaxial	CBRI
	Compression Strength Testing	CBRI
	200 tons capacity	NPL
	Tension and Compression Testing Machine Model No. ZDMOT/91	BITM
Test Equipment, Compressor	Compressor Testing Machine, 100 tons	CMRS
Test Equipment, Concrete	Sonic Concrete Testing Machine	CRRI
	Ultrasonic Concrete Test Equipment	CRRI
Test Equipment, Conductor	Live Conductor Tester 11 kV. model	NAL

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Insulation	—	CMRS
Test Equipment, Corrosion	—	CECRI
Test Equipment, Crease Recovery	'Shirley' Crease Recover Tester for measuring the angle of recovery of fabrics	SASMIRA
Test Equipment, Creep	Herforder Eisengiassere Und. Type 200	NML
Test Equipment, Crimp	'Shirley' Crimp Tester for measure- ment of crimp in yarns	SASMIRA
Test Equipment, Cupping	Cupping Testing Machines	NPL
Test Equipment, Dead Weight	Dead Weight Tester for pressure gauges	NAL
Test Equipment, Drop	Drop Tester	CFTRI
Test Equipment, Dust	—	CMRS
Test Equipment, Endurance	Foldin Endurance Tester	NCL
Test Equipment, Evenness	'Uster' Evenness Tester	ATIRA; SASMIRA
Test Equipment, Fatigue	—	CECRI; CMRS; NPL; CMERI
Test Equipment, Fineness	Sheen's Fineness Tester	CLRI
Test Equipment, Flammability	Flammability Tester for testing flame proof properties of fabrics	SASMIRA
Test Equipment, Flexing	'Metrimpex' Flexing Tester Model 4-23-1, for determining flexing resistance of fibres	SASMIRA
Test Equipment, Flat Crush	Flat Crush Tester	CFTRI
Test Equipment, Flow	Bakelite Flow Testing Machine	NCL
Test Equipment, Hardness	'Baer' Hardness Tester for Spools and Bobbins, Type HBC	SASMIRA
	Brinol Hardness Tester	CMRS

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Combined Vickers and Brinell Hardness Testing Machine	NPL	
Hardness Tester	CECRI; CMRS	
Rockwell Hardness Tester	CMRS; NPL	
Vickers Hardness Testing Machine	NPL; CMRS	
Test Equipment, Hydraulic Pressure	Hydraulic Pressure Measuring Boxes	CBRI
	Preston Internal Hydraulic Pressure Testing Machine	CGCRI
Test Equipment, Impact	Amsler Pendulum Impact Testing Machine	CBRI
	Impact Sensitivity Test Apparatus	CMRS
	Impact Tester (Avery)	CECRI
	Impact Tester for optically illuminated fabrics, New model	SASMIRA
	Impact Testing Machine	CMRS
	Impact Testing Machines (Capacity 120 ft lb. and 1 ft lb.)	NPL
	Inclined Impact Tester for packages	CFTRI
Test Equipment, Leather Cracks	Grain Cracks Testing Mullen Testers	CLRI
Test Equipment, Lubrication	Petter Lubricating Oil Test Rig	IIP
Test Equipment, Non-Destructive	—	NPL; CMERI
	Oil-Testing Set	CMRS
Test Equipment, Plate Bearing	—	CBRI
Test Equipment, Pump	PAI Injection Pump Testing Machine	IIP
Test Equipment, Puncture	G.E. Puncture Tester	CFTRI
	High Voltage Puncture Testing Assembly for A.C. and D.C. 10 kV. to 100 kV. in different sets of transformers	CGCRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Test Equipment, Skid Resistance	Portable Skid Resistance Tester	CRRI
Test Equipment, Spark Plug	—	CMRS; CGCRI; IIP
	'Plug Doctor' Spark Plug Cleaner and Tester	CGCRI
Test Equipment, Spin	S.K.F. Spin Tester	SITRA
Test Equipment, Stability	Marshall Stability Test Machine	CRRI
Test Equipment, Stiffness	'Shirley' Tester for stiffness of textile fabrics	SASMIRA
	Tinius Olsen Stiffness Tester	CLRI
Test Equipment, Strength	Portable Strength Testing Machine	CRRI
Test Equipment, Tensile Strength	'Baer' strength and elongation tester, Type IF; Capacity 0-100/ 0-500 kg. for testing strips of cloth for tensile strength	SASMIRA
	Dynamic Tensile Tester	CFTRI
	'Goodbrand' Tensile Tester for Jute	CFTRI
	Horizontal Tensile Testing Machine, Capacity 500 tons	CMRS
	Instron Tensile Tester	ATIRA
	'Instron' Tensile Tester, Model TTBM, Capacity 500 kg. for measuring the load elongation properties of textiles	SASMIRA
	Instron Tensile Tester Table Model No. T. M.; Capacity 100 kg.	SITRA
	Schopper Tensile Tester	CFTRI
	'Scott' Incline Plane Strength Tester; Model IP-2 Serigraph for testing the tensile strength, elongation and yield point of yarn	SASMIRA
	Tensile Strength Apparatus	CGCRI; NPL
	Tensile Strength Tester for light Leather, Scott; Model J	CLRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Test Equipment, Tension	Tensile Strength Tester for heavy leather, Scott	CLRI
Test Equipment, Tension & Compression	Tension Testing Machine	CECRI
Test Equipment, Thickness	Tension & Compression Testing Machine Model No. ZDMOT/91; German make	BITM
Test Equipment, Torsion	'Baer' Type HBC—for fabrics	SASMIRA
Test Equipment, Twist	Capacity 50,000 kg.	CMRS
Test Equipment, Universal	'Baer' Type IOE for determining turns per meter in yarns	SASMIRA
	'Good Brand' for determining TPM of staple yarns	SASMIRA
Test Equipment, Water Resistance	Avery No. 7102	CBRI
	Denison, Capacity 50 tons	CRRI
	Universal Testing Machine	CBRI
	Capacity 100 tons	NAL
	Capacity 50,000 kg.	CMRS
	Capacity 10, 30 and 100 tons	NPL
Test Equipment, Wear	Hydrostatic Dome Tester for fabrics	SASMIRA
Test Equipment, Wrinkle	CSI STELL QN for measuring the resistance to abrasion and flexing of textile materials	SASMIRA
	Wear Tester for Pencils	NPL
	Wear Testing Machine	CECRI
Test Equipment, Yarn Abrasion	'CSI Celsness' Wrinkle Tester with viewing box for evaluating the resistance and wrinkle behaviour of fabrics	SASMIRA
Test Meter, Electronics	Type ETM4 Avo Ltd, England	BTRA
		CSIO

Instrument/Equipment	Description	Laboratory/ Institute
Textile Fibre, Orientation Measuring Equipment	—	ATIRA
Textile Printing Machine	Kleinw	ATIRA
Theodolite	Ottways 5" Vernier Theodolite	CBRI
Twisting Machine	Twin Twisting Machine	CBRI
	Ravi's Kiryu Type, 200 spindles	SASMIRA
Universal Testing Machines	<i>See</i> Test Equipment, Universal	
Vacuum Cleaner	Industrial Vacuum Cleaner	CMRS
Vibrating Machine	K.C.R. Model 137	CBRI
Vibrating Screen	—	CRRI
Vibrating Table	—	CBRI; CRRI
Vibration Analyser	<i>See</i> Analyser, Vibration	
Vibration Excitor	Philips G.M. 5532	CBRI
Vibration Generator	Philips H. 790	CBRI; NAL
Vibrator, Concrete	Type Concrete Vibrator	CBRI
	'Tecapp' Emersion Concrete Vibrator	CBRI
Warp Tension Meter	Universal Emersion Type Concrete Vibrator	CBRI
Warping Machine	Metrimpex	SASMIRA
Welding Equipment	—	SASMIRA
	Electric Resistance spot and seam welding Machine Control Panel Sciaky England; Type 9 THY 70, SI No. 10519/6	NML
Winding Machine	Max Arc Electric Welding Machine	CBRI
	Spot Welding Machine Holden	CBRI
Winding Machine	KOVO Pirn Winding Machine, 4 spindles	SASMIRA
	Ravi's Double Deck Winding Machine Kiryu Type, 56 spindles	SASMIRA
Wood Worker	Schweither High Speed Pine Apple Cone Winder	SASMIRA
	Tin Bobbin Winding Machine	SASMIRA
	10" Model Ellist Wood Worker	CBRI

PART II

Fabricated Instruments & Equipment

Section 1 : Physical Apparatus & Instruments

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/Institute</i>
Adaptometer, Visual	—	NPL
Aerial, Loop	—	NPL
Amplifier	Preamplifier, 15, 20, 40 Mc/s. General Purpose Amplifier	NPL NAL
Amplifier, Buffer	For use with recorders	CECRI
Amplifiers, Contact	For use with temperature sensing transducers	RRL, Hyd.
Amplifier, D.C.	For Beckman Spectrophotometer Two-stage and Three-stage Transistorized Valve amplifier	RRL, Hyd. NPL NPL NPL
	Chopper Stabilized Amplifiers	CMERI; NAL
Amplifier, Electrometer	Electrometer Amplifier, Measures current up to 100 amp.	NPL
Amplifier, Frequency	50 cycles to 2 mega cycles	NPL
Amplifier, Microphone	Condenser Microphone Amplifier	CEERI
Amplifier, Special	For use in electrochemical measurements	CECRI
Amplifier, Trigger	For time marking assembly	NPL
Amplifier, Whistler	—	NPL
Analogue Computer	<i>See Computer, Analogue</i>	
Audiogenic Box	Audiogenic Seizure Box for mice	CDRI
Balance, Micro	Electrical Micro Balance for weighing fibres	CLRI
Balance, Thermal	For determination of variation in weight at high temperature	NML
	To determine the oxidation resistance of stainless steel	NML
Battery Pole Finder	<i>See Pole Finder, Electronic</i>	
Blood Pressure Recorder	<i>See Recorder, Blood Pressure</i>	

Instrument/Equipment	Description	Laboratory/ Institute
Bridge, Impedance	Resistance measurement: 10 ohms to 10 megohms, Capacitance measurement: 100 picofarads to 10 microfarads, Inductance measurement: 100 microhenries to 100 henries (Accuracy: 1% for R and C and 3% for L)	CSIO
Bridge, Resistance	Standardizing Bridge and Carey Foster Bridge	NPL
Calibration Box, Variometers	For scale value determinations of magnetic observatory variometers	NGRI
Calibration Duct	Modified Calibration Duct	CMRS
Calibrating Equipments	All types	NPL
Calorimeter Accessories	—	NPL
Camera Copying Setup	For micro-photographs	NML
Cell Comparator	—	NPL
Circuit, Frequency Division	Frequency Division Circuit from 100 kc/s. to 10 kc/s.	CBRI
Collector, Solar Heat	—	CMERI
Colour & Fluorescence Meter	<i>See</i> Meter, Colour & Fluorescence	
Colorimeters, Tristimulus	—	NPL
Comparator	Prototype Comparator for secondary standard meter	NPL
Computer, Analogue	—	CMERI; NAL
Conductivity Apparatus, Thermal	—	NML; NGRI
	Apparatus for heat insulating materials	CGCRI
	All metal (Iofee's) and all glass apparatus (Serodi's)	NPL
	Guard Dome Apparatus	CBRI
	Guarded Hot Box Apparatus for prototype wall panels	CBRI
	High Vacuum Equipment	NPL

Instrument/Equipment	Description	Laboratory/ Institute
	Single Bar Apparatus for insulating and other building materials	CBRI
	Apparatus for enamels	CGCRI
	Apparatus for liquids	NPL
Controller, Temperature	Photo-electric Temperature Controller	NML
	Photo-transistorized Temperature Controller	NML
	Reset Proportional Temperature Controller	NML
	Thyatron Temperature Controller	NML
	<i>See also</i> Regulator	
Convergence Indicator	<i>See</i> Indicator, Convergence	
Convergence Recorder	<i>See</i> Recorder, Convergence	
Converter, Microvolt Signals	To convert low milli voltage DC signals (from thermocouples, straingauges, pyrometers, etc.) into a standard 0.10 milliampere current signals	CSIO
Counter, Decade	Hard Valve Decade Counting Unit	CBRI
Coupler	Strip Line Dual Directional Coupler; 4-10 CC-20 db coupling	CEERI
Cryobath	Cooling area of 50 x 30 cm. to give a temp. range of 30° to 0°C.	CDRI
Cryostat Assemblies	For investigation of De Hass Van Alphen effect, specific heat, thermal conductivity & thermal expansion at liquid helium temperatures	NPL
Crystal Holder	—	NPL
Crystal Mounting Unit	—	NGRI
Current Reversal Setup	—	CECRI
Current Source	Variable current source for electro-chemical work	CECRI
Die, Moulding	Special moulding die for decoding machine discs	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Dielectric Jig	<i>See</i> Jig, Dielectric	
Differential Refractive Index Apparatus	—	CFRI
Diffractometer, Counter	—	ATIRA
Digital Frequency Meter	<i>See</i> Frequency Meter	
Digitizer	Shaft Position Digitizer (1000 counts)	NAL
Diodes, Germanium	For rectification, clipping, gating, switching, blocking, etc.	CEERI
Earth Pressure Apparatus	<i>See</i> Measuring Apparatus, Earth Pressure	
Edser-Butler Plate	—	NPL
Electrical Analogy Apparatus	Electrolytic tank (5 ft \times 5 ft) and circuitry for rheoelectrical analogy technique of solving aero- dynamic and structural problems	NAL
Electrical Resistivity Apparatus	—	NPL
Electrodeposit Thickness Measuring Apparatus	<i>See</i> Measuring Apparatus, Electro- deposit Thickness	
Electromagnet	Electromagnet with flux density 2500 gauss at 1.5" air gap	CEERI
	Small Electromagnet giving a field of 7000 oersteds	NPL
Electron Gun Parts	—	NPL
Electrophoresis Apparatus	—	CGCRI
	Perspex Electrophoresis Apparatus without power unit	CDRI
Electrostatic Bath	—	NPL
Exciter Oscillator	<i>See</i> Oscillators	
Extensometer	Lever Roller Type	CMRS
	Lever Type	CMRS
	Measuring Pin and Extensometer for measurement of roof strain	CMRS
	Triple Bore-Hole Type	CMRS
Flowmeter	—	CMERI

Instrument/Equipment	Description	Laboratory/ Institute
Flowmeter, Photo-cell	—	CMERI
Fluorescence Meter	<i>See</i> Meter, Colour & Fluorescence	
Frequency Amplifier	<i>See</i> Amplifier, Frequency	
Frequency Circuit	<i>See</i> Circuit, Frequency	
Frequency Generator	<i>See</i> Generators	
Frequency Meter	<i>See</i> Meter, Frequency	
Friction Apparatus	Apparatus for determination of internal friction of glass and ceramic fibres	CGCRI
Friction Testing Machine	<i>See</i> Test Equipment, Friction	
Furnace & Temperature Regulator	<i>See</i> Controller	
Furnace Material Specific Heat Apparatus	<i>See</i> Specific Heat Apparatus	
Galvanostats	—	CECRI
Gauge, Electrical Resistances	—	CBRI
Gauge, Hook	—	CMERI
Generator, Signal	Audio Frequency High Frequency Radio frequency	CECRI CFRI NPL; CEERI
Generator, Square Wave	Square Wave and Pulse Generator 1-100 kc/s.	CBRI
Generator, Ultra-sonic	—	CECRI
Generator, Vibration	—	CMERI
Germanium Diodes	<i>See</i> Diodes, Germanium	
Glass & Ceramic Friction Determination Apparatus	<i>See</i> Friction Apparatus	
Heat Flow Meter	—	CBRI
Heating Element Test Apparatus	<i>See</i> Test Equipment, Heating Elements	

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Hot Wire Anemometer	For Turbulence Measurements	NAL
Illumination Box	—	CGCRI
Image Quality Indicator	<i>See Indicator, Image Quality</i>	
Impact Strength Index Apparatus	—	CMRS
Impedance Bridge	<i>See Bridge, Impedance</i>	
Indicator, Convergence	Various types	CMRS
Indicator, Image Quality	—	CMERI
Indicator, Pitch	<i>Experimental Pitch Indicator</i>	CMERI
Indicator, Temperature	<i>Temperature Indicators for wind tunnel instrumentation</i>	NAL
Integrating Sphere	—	NPL
Integrator, Bump	—	CRRI
Integrator, Square Wave	<i>For use in polarography</i>	CECRI
Interferometers	<i>Mach-Zehder, Microscope Objective Testing, Mounts, Radial Shearing & Twyman Green</i>	NPL
Interrupter, Electronic	<i>Electronic Interrupter for polarization work</i>	CECRI
Jack, Prestressing	<i>Prestressing Screw Jack, Capacity 5 tons</i>	CBRI
Lamp Projector	<i>See Projector, Lamp</i>	
Lamp, Tungsten Ribbon	<i>For standard optical pyrometer</i>	NPL
Light Recognition Instrument	<i>Signal Light Recognition Instrument</i>	NPL
Linear Densitometer	—	NPL
Magnetostriction Measuring Apparatus	<i>See Measuring Apparatus, Magnetostriction</i>	
Magnetometer	<i>Astatic</i>	NGRI
Magnetometer Coil Assembly	<i>Vetoring Fanselan Coil Assembly and Turn Table (in Aluminium) for Proton Magnetometer</i>	NGRI
Magnet	<i>Electro-magnet for magnetrons</i>	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Measuring Apparatus, Electrodeposit Thickness	Electronic Thickness Measuring Unit for electrodeposits based on D.C. change	CECRI
	Electronic Thickness Measuring Unit for electrodeposits based on impedance change	CECRI
Measuring Apparatus, Drop Time	For polarographic studies	CECRI
Measuring Apparatus, Electric Constant	Piezo type (Disc capacity up to 22 mm.)	NPL
Measuring Apparatus, Fibre Friction	—	CLRI
Measuring Apparatus, Lateral Movement	—	CMRS
Measuring Apparatus, Magneto-striction	—	NML
Measuring Apparatus, Pore Water Pressure	Automatic	CBRI
Measuring Apparatus, Roofstrain	Measuring Pin and an extensometer for measurement of Roofstrain	CMRS
Measuring Apparatus, Seebeck Coefficient	For semiconductor materials	NPL
Measuring Apparatus, Strain	—	CMRS
Measuring Apparatus, Earth Pressure & Skin Friction	Earth Pressure and Skin Friction Measuring Cell for measuring normal earth pressure and skin friction on well foundations, piles, etc.	CBRI
Meter, Audiophase	Direct Reading Audiophase Meter for Measurement of phase angles	CBRI
Meter, Colour & Fluorescence	—	ATIRA
Meter, Frequency	Digital, comprising two independent sub-assemblies:	CEERI
	(i) Input and Counting Unit (ii) Timing and Control Unit }	CEERI

Instrument/Equipment	Description	Laboratory/ Institute
Meter, Nuclear Density	—	CRRI
	200 Mc/s. (Oscillator, Mixer, I.F. Amplifier, Power supply)	NPL
Meter, Sound Level	Transistorized Sound Level Meter	CEERI
Meter, Stress	Stress Meter for Electrodeposits	CECRI
Micro Balance	<i>See</i> Balance, Micro	
Microphone Amplifier	<i>See</i> Amplifier, Microphone	
Microphone, Condenser	Miniature Condenser Microphone, Frequency Response 40 to 10,000 cps.	CEERI
Microphone, Moving Coil	High Quality Model	CEERI
Microscope Objective Tester	<i>See</i> Test Equipment, Microscope Objective	
Microscope, Hot Stage	Apparatus for studying high temperature phase equilibria of refractories, glass, slags, cement, etc.	NML
Microvolt Signals Converter	<i>See</i> Converter, Microvolt Signals	
Microwave Cavities	Cavities for microwave work	NPL
Mirror Concentrators, Plain Glass	—	NPL
Mirror, Cylindrical & Paraboloidal	—	NPL
Modulus of Rupture Apparatus	For glass	CGCRI
Moisture Determination Apparatus	For tiles	CGCRI
Noise Generator	—	NPL
Nozzle Machine	Fabrication and testing of Nozzle	NPL
Null Detector	—	CBRI; CECRI; CMERI
Optical Accessories	Collets, Clamping Bells, Adapter, Holders, etc. for tooling up of optical workshop and for the optical laboratory	CSIO

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Oscillators	Local Oscillator 1 Mc/s; 20 Mc/s; 20.005 Mc/s	NPL
	Exciter Oscillator & Null Detector for analogue electrolytic bath	CMERI
	H.F. Oscillator	NPL
	Pulered Oscillator	NGRI
Photocell Meter	Flow	—
Photometer, Loga- rithmic	—	NPL
Photometer, Photo- electric	—	NPL
Pitch Indicator	<i>See Indicator, Pitch</i>	
Plumb Bob and Base Plate Apparatus	Arrangement for measuring rela- tive movement between roof and floor	CMRS
Polariscope	Complete	NPL
Pole Finder, Elec- tronic	Electronic Pole Finder for use in battery industry	CECRI
Porolimeter	—	NGRI
Potentiometer, Step	—	CBRI
Potentiostat	—	CECRI; NML
Power Supply	D.C. 0.5 kV. & 0.10 kV.	NPL
	Input 230 V. A.C., Output 150 V. D.C. 100 mA. & Input 230 V. A.C., Output 250 V. D.C. 200 mA.	NPL
	Input 230 V. A.C., Output 250 V. D.C. 200 mA. & Input 150 V. D.C., Output 6.3 V. A.C. 5 mA.	NPL
	200 mA. 250 V.	NPL
	Input 230 V. A.C., Output 125 V. D.C. 200 mA. 63 V. A.C. 7 amp.	NPL
	Input 230 V. A.C., Output 250 V. D.C. 200 mA.	NPL
	Output Photomultiplier Power supply	CECRI
Power Supply, High Voltage	—	NPL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Power Supply, Regulated	Electronically Regulated Power Supply	CBRI; CECRI
Power Supply, Transistorized	—	NAL
9V, 1A	—	NPL
Output Voltage Range; 1-30 V in 5 ranges	—	CEERI
Pressure Survey Apparatus	—	CMRS
Prisms, Cubes, Polygons, etc.	—	CSIO
Probes, Resistivity	2-point and 4-point probes	NPL
Probes, Thermal	For quick 'in site' determination of the thermal conductivities of building and insulating materials	CBRI
Projector	Kerosene Oil Lamp Projector for educational work in rural areas	NPL
Radio Testing Machine	<i>See Test Equipment, Radio</i>	—
Radiometer, Solar	—	NPL
Receiver, Transistorized	1-27 kc/s, 1-100 kc/s, 2-20 Mc/s	NPL
Recorder, Pressure	Blood	CDRI
Recorder, Convergence	Modified Model	CMRS
Recorders, Strain Measuring	—	NAL
Recorder, Time	<i>V.B. Time Recorder</i>	CRRI
Reflectometer	—	CMERI; CSMCRI
Reflectometer, Photo-electric	—	NPL
Reflector Solar	<i>Parabolic Solar Reflector</i>	CMERI
Regulator, Furnace & Temperature	—	NGRI

Instrument/Equipment	Description	Laboratory/ Institute
Relays	Voltage Cutoff Relays for use in battery discharge work	CECRI
	Electronic Relay for maintaining constant temperature using <i>t</i> -toluene regulator	CSMCRI
	Electronic Relay to indicate the shorting of Plants type of plates in a storage battery during charging process	CECRI
	Electronic Thermoregulator Relays	CECRI
Resistance Bridge	<i>See</i> Bridge, Resistance	
Resistivity Probes	<i>See</i> Probes, Resistivity	
Resonator	Cylindrical Cavity Resonator	NPL
Roofstrain Measuring Apparatus	<i>See</i> Measuring Apparatus, Roofstrain	
Rotameter	—	CMERI
Secondary Standard Meter Comparator	<i>See</i> Comparator	
Shock Tester	<i>See</i> Test Equipment, Shock	
Shrinkage Tester	<i>See</i> Test Equipment, Shrinkage	
Signal Converter	<i>See</i> Converter	
Signal Generator	<i>See</i> Generator, Signal	
Slides, Optical Bench	—	NPL
Smoke Tunnel	For flow visualization (6 in. \times 1 in.)	NAL
Solar Radiometer	<i>See</i> Radiometer, Solar	
Sound Level Meter	<i>See</i> Meter, Sound Level	
Solar Reflector	<i>See</i> Reflector, Solar	
Spark Plug Testing Equipment	<i>See</i> Test Equipment, Spark Plug	
Specific Heat Apparatus	Apparatus for determination of specific heat for blast furnace material	NML
Spectrometer, Recording	—	NPL
Speed Drive, Variable	—	CMERI
Speed Judgement Model	—	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Spherometers	A set of hand spherometers, ring type of various dimensions	CSIO
Steriotoxic Instrument	To provide access into any part of brain accurately. The probe movement can be as fine as 1 μ in any direction	CSIO
Stimulator, Low Voltage	Frequency variation from 40 to 200 c.p.s. and amplitude variation from 0.9 V. to 0.18 V.	CSIO
Strain Measuring Apparatus	<i>See</i> Measuring Apparatus, Strain	
Strain Recorder	<i>See</i> Recorder, Strain Measuring	
Strain Viewer	For examination of glass	CGCRI
Stress Meter	<i>See</i> Meter, Stress	
Surgical Splint	Special Surgical Splint and Balkan Frame, etc.	NPL
Switch, Cyclic	—	CMERI
Switch, Electronic	For use with oscilloscope	CECRI
Switch Testing Machine	<i>See</i> Test Equipment, Switch	
Television Receiver	To CCIR standards, with inter-carrier systems	CEERI
Telescope, Refractive	—	CGCRI
Temperature Controller	<i>See</i> Controller, Temperature	
Temperature Indicator	<i>See</i> Indicator, Temperature	
Test Equipment, Acoustical	For measurement of standing wave ratio and to find out absorption frequencies	CLRI
Test Equipment, Bank Switch	—	NPL
Test Equipment, Friction	Reciprocating Motion Sliding Friction Testing Machine	NML
Test Equipment, Heating Elements	For accelerated life test	NML
Test Equipment, Microscope Objective	Microscope Objective Testing Attachment	NPL
	Microscope Objective Testing Interferometer	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Radio	Bump Testing Machine and Humidity Chamber	NPL
Test Equipment, Shock	Shock Tester	NPL
Test Equipment, Sonic	For studying the correlation between various conventional strength properties and dynamic modulus of elasticity	CBRI
Test Equipment, Thermal Endurance	For glass bottles	CGCRI
Test Equipment, Transistor Circuit	Transistor Circuit Testing Equipment	CEERI
Test Equipment, Volume Control	—	NPL
Test Rig	For rotational and translation movement	NPL
Test Rig, Air Jet Thrust	For aerodynamic noise suppression studies	NAL
	Air Thrust Rig Pilot Installation for measurement of thrust produced by air jets and for development of optimum nozzle for maximum thrust	NAL
Test Rig, Ejector	Air Jet Ejector Rig for design of ejector for plenum suction in wind tunnels	NAL
Test Rig, Balance Calibration	Rig for Calibration of Strain Gauge Balance for force and moment measurement	NAL
Test Rig, Damper	Telescopic Damper Test Rig	CMERI
Thermal Balance	<i>See Balance, Thermal</i>	
Thermal Conductivity Apparatus	<i>See Conductivity Apparatus, Thermal</i>	
Thermometer, Electronic	—	RRL, Hyd.
Thermometer, Soil Air	—	CBRI
Thermometer, Oxygen Vapour Pressure	—	NPL
Thermometer, Platinum Resistance	—	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Thermometer, Thermister	—	NGRI
Thermostatic Bath	<i>See</i> Bath, Thermostatic	
Tigs, Thermoelectric Materials	For forming and testing Thermo- electric Materials	NPL
Time Delay Unit	Time Delay Unit for use in polaro- graphy	CECRI
Timer, Electronic	Electronic Cycle Timers	CECRI
Time Recorder	<i>See</i> Recorder, Time	
Timer Water Level	—	CMERI
Traffic Light Control Unit and Lanterns	—	NPL
Transducer Indicator	Transistorized Indicator for Transducers	NAL
Transducer, Linear Displacement	—	CMERI
	Linear Displacement Transducer with indicator	NAL
Transducer, Pressure	Bonded Strain gauge type Pressure Transducer	NAL
	Pressure Transducers with Ampli- fier Detector	NAL
Transformer	Special transformers for ratio cum transformer bridge	CECRI
Transformer, Low Voltage	Low Voltage high current Trans- formers, single phase :	
	(i) 10 Volt-600 amp. (ii) 24 kVA at voltages of 10, 20 and 40 V. (iii) 50 kVA at voltages of 10, 20 and 40 V. (iv) 5 kVA, 10 Volts 500 amp.	CECRI
Trigger Amplifier	<i>See</i> Amplifier, Trigger	
Translator, Solid State	Solid State Translator for the shaft position digitizer	NAL
Translator Unit	Translator Unit with three decimal digit display	NAL
Tube Adapters	For lenses	NPL
Turbine, Water	—	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Ultrasonic Cell	—	NPL
Ultrasonic Diffraction Apparatus	—	NPL
Ultrasonic Generator	See Generator, Ultrasonic	
Ultrasonic Pulse Apparatus	—	NPL
Vacuum System, Demountable	—	CEERI
Variometer Calibration Box	See Calibration Box, Variometer	
Vibration Generator	See Generator, Vibration	
Voltmeter	Vacuum Tube Voltmeter	CECRI
Voltmeter, Digital	Digital Voltmeter	NAL
Volume Control Testing Machine	See Test Equipment, Volume Control	
Volumeter	—	NGRI
Vortex Flow Tunnel	22 in. diam.	NAL
Water Cooler	See Cooler, Water	
Water Heater	See Heater, Water	
Water Pumping Wind Mill	See Wind Mill, Water Pumping	
Waveguide	12" length	NPL
Weights, Metric	Metric Cast Iron Weights	NPL
Wind Tunnel	—	CMERI
Wind Tunnel, Blow Down	2 in. pilot blow down facility and associated air supply system and instrumentation for experimental studies on design and operational aspects of blowdown wind tunnels	NAL
	1 ft × 1 ft trisonic wind tunnel for subsonic, transonic and supersonic aerodynamic and structures research	NAL
Wind Tunnel, Induction	5 in. × 5 in. Induction Tunnel for transonic aerodynamic research	NAL
Windmill, Water Pumping	WP-1 and WP-2 Water Pumping Windmills with pumps	NAL
X-Ray Camera	Small Angle X-ray Camera	ATIRA

Section 2 : Chemical & Technological Equipment

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Activation Unit	For activation of earths	RRL, Hyd.
Active Carbon Reactor	<i>See</i> Reactor, Active Carbon	
Active Carbon Unit	Active Carbon Production Unit, Capacity 3 tonnes per day	RRL, Hyd.
Agitator	—	NML
Aluminizing Plant	For aluminizing mild steel wires	NML
	Various parts of strip aluminizing plant	NML
Aluminizing Plant, Iron Pots	Special Alloy Iron Pots for aluminizing of steel wire	NML
Analgesic Apparatus	Analgesic apparatus for mice (hot plate type)	CDRI
Analyser, Gas	To indicate the percentage of hydrogen in chlorine used in chloro-alkali industry	CECRI
	Universal Gas Analysis Apparatus	CMRS
Autoclave	—	NML
	Stainless Steel Autoclave	NCL
	Cylindrical Autoclaves 300 atm.	CFRI
Ball Mill	—	NCL; NPL; SASMIRA
	Bitumen Ball Mill	CRRI
Bangle Making Equipment	—	CGCRI
Barometric Condenser	<i>See</i> Condenser, Barometric	
Bitumen Plant	Loss on heating Asphaltic Bitumen as per STPT Specification	CFRI
Briquette Carbonizer	<i>See</i> Carbonizer, Briquette	
Burner, Gas	Gas Burners of different designs	CFRI
Burner, Glass	Glass Blowing Burner	CDRI

Instrument / Equipment	Description	Laboratory / Institute
Burner, Micro	—	NCL
C. H. Apparatus	Fetons C. H. Apparatus	CFRI
Calcination Furnace	<i>See</i> Furnace	
Calciner, Rotary	Mild Steel	CSMCRI
Carbon Manufacture Plant	Semi-pilot Plant for Carbon Manufacture, Capacity 150 lb. per charge	CFRI
Carbon Monoxide Detector	<i>See</i> Detector Tube, Carbon Monoxide	
Carbonization Plant, Gases Desulphurization	Desulphurization of Gases (Fluid Bed) Plant	CFRI
	Desulphurization of Hot Temperature Carbonization Gases Unit (Fixed Bed), Capacity 16-18 m. cft. of coke oven gas per ton of processed catalyst	CFRI
Carbonization Plant, Low Temperature	Low Temperature Carbonization Plant (Fluid Bed), Capacity 120 lb./8 hrs	CFRI
Carbonizer, Briquette	Continuous Briquette Carbonizer (Mild Steel), Capacity 100 kg./day	RRL, Hyd.
Casting Equipment, Glass Slab	Capacity 1 ton	CGCRI
Casting Machine, Non-ferrous	Continuous Casting Machine for non-ferrous rolled products	NML
Catalyst Testing Reactor	<i>See</i> Reactor, Catalyst Testing	
Centrifuge, Liquid Metal	High speed Liquid Metal Centrifuge with accessories	NML
Chamber, Drying	—	RRL, Hyd.
Chambers, Temperature	Constant Temperature Chambers	NCL
Chromatocab	—	CDRI
Chromatographic Apparatus	Janak's Chromatographic Apparatus for Gas Analysis	IIP
Chromatographic Chamber	—	CDRI
Chromatography Applicator	—	CDRI

Instrument/Equipment	Description	Laboratory/ Institute
Chronopotentiometry Setup	—	CECRI
Clay Workability Apparatus	Apparatus for Determining Workability of Clays	CGCRI
Clay Bleaching Equipment	Clay Bleaching Equipment including Blungers, etc.	CGCRI
Clay Levigation Plant	—	CGCRI
Coal Briquetting Press	<i>See</i> Press, Coal Briquetting	
Coal Devolatiliza- tion Plant	Moving Bed Devolatilization of Coal, Capacity 10 tons/day	CFRI
Coal Fertilizer Plant	<i>See</i> Fertilizer Plant, Coal	
Coal Gasification Unit	<i>See</i> Gasification Unit, Coal	
Coal Indentation Apparatus	—	CMRS
Coal Penetrometer	<i>See</i> Penetrometer, Coal	
Coating Machine, Silver	Automatic Machine	NPL
Combustion Pipette	Modified Combustion Pipette to analyse explosive mixture of methane with air in Haldance Mine Air Analysis Apparatus	CMRS
Compressor, Gas	Diaphragm Gas Compressor	CMERI
Concrete Flow Table	Flow Table for Concrete 30"	CRRI
Condenser, Baro- metric	—	RRL, Hyd.
Condenser, Freon	—	CMERI
Condenser, Surface	Stainless steel Surface Condensers of various capacities	CFTRI
Consistometer, Micro	—	CRRI
Converter, Side Blown	Side Blown Basic Converter	NML
Copper Extraction Plant	Copper Extraction and Distillation Plant	CDRI
Core, Metal	Metalic Core for Grease Consistency Measurement (STPT Standard Apparatus)	CFRI

Instrument/Equipment	Description	Laboratory/ Institute
Corrosion Apparatus	Circulated path apparatus	NML
Cottonseed Cleaner	Pneumatic Cottonseed Cleaner	RRL, Hyd.
Cottonseed Oil, Refining Unit	Accessories to cottonseed oil refining unit, Capacity 1/2 ton	RRL, Hyd.
Countercurrent Dis- tribution Appara- tus	<i>See</i> Distribution Apparatus, Countercurrent	
Crystal Growing Unit	—	NPL
Crystal Growth Furnace	<i>See</i> Furnace, Crystal Growth	
Cylinder, Steam Jacketed	—	CSMCRI
Demagnetization Apparatus	A.C.	NGRI
Detector Tube, Carbon Monoxide	—	CMRS
Densitometer, Linear	—	NPL
Die, Moulding	Special Moulding Die for metal casting	NPL
Disc, Pelletizing	Pelletizing Disc for pelletizing of ore fines	NML
Disintegrator, Glass	Glass Disintegrator for fibres	CLRI
Distillation Unit	Continuous Distillation Unit, Capacity 3 litres/hr	IIP
	Morel Metal Distillation Unit, Capacity 10 gallons	RRL, Hyd.
	T.B.P. Distillation Apparatus in- cluding Control Panel, Capacity 5 litres crude	CFRI
	Essential Oil Distillation Apparatus	CFTRI
	Fatty Acids Distillation Unit	RRL, Hyd.
	Lead Distillation Unit	CSMCRI
	Stainless Steel Unit	RRL, Hyd.
	Tar Distillation Unit (Mild Steel), Capacity 3 tonnes per day	RRL, Hyd.
	Tar Acid Recovery Unit (Mild Steel), Capacity 100 gallons liquor per hour	RRL, Hyd.

Instrument/Equipment	Description	Laboratory/ Institute
Distribution Apparatus, Counter-current	—	CDRI; CFRI
Dome, Silicate Furnace	—	CSMCRI
Drying Unit	—	CSMCRI CFTRI
	Stainless Steel Drum Drier 10 sq. ft heating area	
Electric Driers		CGCRI
Clay Driers Electrical		CGCRI
Through Flow Drier		CFTRI
Vertical Bed Through Flow Drier for drying parboiled paddy and similar grains		CFTRI
Incubator Drier for Fungal Diastase with 40 trays		CFTRI
Magnesium Chloride Drier for the production of magnesium metal		NML
Pneumatic Flash Drier with capacity to dry 50 lb. per hour of rice bran		CFTRI
Rotary Drier for ore dressing operations		NML
Rotary Drier for dairy salt		CSMCRI
Hand Rotating Double Jacketed Drum		CSMCRI
Rotary Vacuum Drier stainless steel one cwt. holding capacity		CFTRI
Vacuum Shelf Drier 24 sq. ft shelf area with heating medium either steam or hot water		CFTRI
Drying Chamber	<i>See</i> Chamber, Drying	
Electrode Equipment, Spark Plug Ionizing	For gas testing	CGCRI
Elastic Constant Determination Apparatus, Metals	For metals, by Ultrasonic Excitation	NML
Elastic Modulus Determination Apparatus	For refractories, by sonic method	NML

Instrument/Equipment	Description	Laboratory/ Institute
Electrolytic Tank	—	NPL
Elutriator	All-glass Elutriator for the separation of minerals	CMRS
Essential Oil Distillation Apparatus	<i>See</i> Distillation Unit	
Evaporator	Craig type	NCL
	Falling Film Evaporator Stainless Steel, Capacity 400 lb. of water evaporation per hour ft	CFTRI
	Flash Evaporator with Rotary Parts	NPL
	Molybdenum Steel Vessel	CSMCRI
	Stainless Steel Climbing and Falling Film Evaporator, Capacity 80 lb. of water evaporated per hour; Heating area 10 sq. ft for highly viscous liquids like malt extract, fruit juices; Extracts	CFTRI
	Stainless Steel Forced Circulation Evaporator	CFTRI
	Stainless Steel Forced Circulation Vacuum Evaporator, Heating surface 2 sq. ft	CFTRI
	Stainless Steel Thin Layer Evaporator, Heating area 1 sq. ft	CFTRI
	Vacuum Evaporation Unit	NPL
Extractor	Continuous Extractor, Capacity 500 kg/hr	CFTRI
	Horizontal Solvent Extracting Unit	CFTRI
	Semi Continuous Solvent Extraction Unit	RRL, Hyd.
	Stainless Steel Extractor with M. S. Stand	CFTRI
	Tar Acid Extraction Unit (Mild Steel), Capacity 100 litres per hour	RRL, Hyd.
	Vertical Oil Extractor	CFTRI
Fatty Acids Distillation Unit	<i>See</i> Distillation Unit	
Fatty Acid Separation Unit	<i>See</i> Separation Unit, Fatty Acids	

Instrument/Equipment	Description	Laboratory/ Institute
Fertilizer Plant, Coal	Capacity 5000 lb./day	CFRI
Ammonium Humate (Fluid Bed) Coal Fertilizer Plant, Capacity 26 lb. per charge		CFRI
Humic Acid (Fluid Bed) Coal Fertilizer Plant, Capacity 100 lb./ hr		CFRI
Filter, Fermentor Air	—	CDRI
Filter, Nutche	Stainless Steel Steam Jacketed Nutche Filter operating on pres- sure and vacuum	NCL
Filter, Seitz & Air Traps	Seitz Filter without pads and air traps	CDRI
Filter, Vacuum	Vacuum Filter Unit	CSMCRI
Vibratory Vacuum Filter, Stainless Steel, 12 ft filtering surface		CFTRI
Rotary Horizontal Vacuum Filter and Dewaterer, 10 ft filtering surface		CFTRI
Filters	M. S. Filtration Unit	CSMCRI
Stainless Steel Filter Vessel 20" x 15" high		CFTRI
Flask, Dewar	—	NPL
Flow Table, Con- crete	Flow Table for concrete	CRRI
Foam Glass Plant	—	CGCRI
Foam Spraying Equipment	See Spraying Equipment, Foam	
Fuel Measuring Chamber	—	CMERI
Fuel Oil Filter Test Rig	See Test Rig, Fuel Oil	
Furnace	Micro analysis furnaces	CDRI
Furnace, Annealing	Electric Annealing Furnace	CGCRI
Furnace, Annealing, Glass	Glass Article Annealing Furnace	CGCRI
Furnace, Blast	Experimental Baby Blast Furnace	NML
Furnace, Calcina- tion, Gypsum	Gypsum Calcination Furnace	CGCRI

Instrument/Equipment	Description	Laboratory/ Institute
Furnace, Calcination, Mica	Mica Powder Calcination Furnace	CGCRI
Furnace, Crystal Growth	—	CGCRI
Furnace, D. T. A.	—	CGCRI
Furnace, Electric	—	NML
Electric Slumping Furnace	CGCRI	
Electrical Chlorination Furnace for continuous production of 10 kg./hr of anhydrous magnesium chloride	NML	
Small Size	RRL, Hyd.	
Furnace, Gas	High temperature gas fired furnace	CGCRI
Furnace, Glass Viscosity	—	CGCRI
Furnace, Hydrogen	—	NPL
Furnace, Muffle	Kanthal Wire Wound Muffle Furnace	CGCRI
Standard Muffle Furnace for ash and volatile matter determination	CFRI	
Furnace, Panel Spalling	—	CGCRI
Furnace, Phase Equilibrium Run	—	CGCRI
Furnace, Pot	Pot Furnace with resistance element embedded in refractory cement (1150°)	NML
Furnace, Rotary	—	CRRI
Rotary Furnace for Calcining Mica	CGCRI	
Furnace, Silicon Carbide	—	RRL, Hyd.
Silicon Carbide Glass Melting Furnace	CGCRI	
Vertical and Horizontal Silicon Carbide Rod Furnace	CGCRI	
Furnace, Test	Dielectric Test Furnace	CGCRI
	Underload Test Furnace	CGCRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Furnace, Tube	Electrical Tube Furnace	NML; CFRI
	Furnace Setup for an electrically operated tubular furnace 18" in length and 80 lb. in weight. The furnace can be shifted vertically and also rotated along with vertical axis.	NML
	Gradientless Tube Furnace, 1150°C. 10" x 1½" dia.; 6" heating zone	NML
	Kanthal nichrome and molybdenum wound tubular furnaces along with energy and temperature control equipment	NML
	Tube Furnace with tubeless-type electrical resistance element for operation at 1150°C.	NML
	Tube and Muffle Furnaces	NML
Gas Analyser	<i>See</i> Analyser, Gas	
Gas Burners	<i>See</i> Burners, Gas	
Gas Furnace	<i>See</i> Furnace, Gas	
Gas Retort	<i>See</i> Retort, Gas	
Gases Desulphurization Plant	<i>See</i> Carbonization Plant, Gases Desulphurization	
Gasification Plant	Down-Draft Gasification Plant, Capacity 50 lb. per hour (including shed)	CFRI
	Dust Gasification Plant, Capacity 250 lb. per hour	CFRI
Gasification Unit, Coal	Capacity 3 kg. per day	RRL, Hyd.
Gasoline Solidification Apparatus	—	CFRI
Generator, Slagging Gas	Capacity 400 lb. per hour (including shed)	CFRI
Generator, Water Gas	Water Gas Generator complete with Purification Unit, Capacity 10,000 cft. per hour	CFRI
Glass Annealing Furnace	<i>See</i> Furnace, Annealing, Glass	
Glass Annealing & Strain Point Apparatus	<i>See</i> Annealing and Strain Point Apparatus, Glass	

Instrument/Equipment	Description	Laboratory/ Institute
Glass Blowing Burner	<i>See</i> Burner, Glass	
Glass Casting Equipment	<i>See</i> Casting Equipment, Glass Slab	
Glass Configuration Apparatus	All-glass Configuration for firing material up to 600°C. under charge of nitrogen with mercury valve for safety	NPL
Glass Disintegrator	<i>See</i> Disintegrator, Glass	
Glass Grinding Machine	<i>See</i> Grinding Machine, Glass	
Glass Making Unit	Prototype Glass Making Unit	NPL
Glass Melting Equipment	<i>See</i> Melting Equipment, Special Glass	
Glass Plank Forming Press	<i>See</i> Press, Glass Planks	
Glass Slitting Saw	—	CSIO
Glass Viscosity Determination Furnace	<i>See</i> Furnace, Glass Viscosity	
Glycerine Recovery Unit	Stainless Steel, Capacity 10 gallons	RRL, Hyd.
Glue Mixer	<i>See</i> Mixer, Glue	
Groundnut Classifier	—	CFTRI
Groundnut Sieving Machine	—	CFTRI
Gum Estimation Apparatus, Gasoline	Apparatus for Estimation of Gum in Motor and Aviation Gasoline	CFRI
Heat of Wetting Apparatus	—	CFRI
Heater, Solar	Solar Water Heater	CSMCRI
	Solar Unit for fresh water from sea water 9' × 3" with metallic frame	CSMCRI
Heater, Solar Water	—	NPL
Heater, Steam Air	Steam Air Heaters made out of 1/32" thick aluminium sheet (24" × 24" × 9")	CFTRI
Heater, Water	Water Heater Unit for Swing Fire Heater	CMERI
Helium Gas Tank	3 cu. ft	NPL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Helium Gas Holder	0.75 cubic meters and 3 cu. meters	NPL
Helium Purification System	—	NPL
Helium Recovery Lines	One for recovering helium gas from cryostats at gas holder pressure and one through a large vacuum pump	NPL
Helium Storages	—	NPL
Humidity Cabinet	Hundred per cent Humidity Cabinet for corrosion tests	NML
Humidity Chamber	Humidity Control Chamber of various sizes	CFRI
Hydrazine Sulphate Production Unit	—	RRL, Hyd.
Hydrogen Determination Apparatus	Apparatus for determination of hydrogen in steels	NML
Hydrogen Furnace	<i>See</i> Furnace, Hydrogen	
Hydrogen Refining Unit	Multipurpose Unit, Capacity 0.1-1.0 litre/hr of feed	IIP
Incubation Chamber	—	CDRI
Incubator	—	CDRI
Insecticide Spraying Equipment	<i>See</i> Spraying Equipment, Insecticide	
Iron Removing Unit	Iron Removing Unit for clays	CGCRI
Kiln, Rotary	—	CRRI
	Capacity 1 ton/day fired for calcining of refractory materials	NML
Kettle, Digestion	<i>See</i> Batch Kiln	NML
Kettle, Varnish	—	CRRI
Lead Castle	Capacity 25 gallons	RRL, Hyd.
Lead Castle for R.T.L.		NCL
Lead Distillation Unit	<i>See</i> Distillation Unit, Lead	
Leak Proof Cylinder	<i>See</i> Cylinder, Leak Proof	
Liquid Extraction Column	Schievel's Liquid Extraction Column, Rotating Disc Type, Capacity 500 cc.	CFRI

Instrument/Equipment	Description	Laboratory/ Institute
Liquid Limit Apparatus, Accessory	Mechanical Device for Liquid Limit by Penetrometer method	CRRI
Liquid Limit Apparatus, Cone	—	CRRI
Lubricating Oil Filter Test Rig	See Test Rig, Lubricating Oil	
Magnesium Chloride Drier	See Drying Unit	
Manganese Dioxide Cell	Electrolytic	NML
	Manganese Dioxide Cell for Manganese Pilot Plant	NML
Mantles	Heating Mantles of various sizes	NCL
Measuring Apparatus, Clay Plasticity	Atterburg Apparatus for Measuring Plasticity of Clays	CGCRI
Melting Equipment, Special Glass	Special Glass Melting Unit consisting of Furnaces, Infinitely Variable Speed Stirring Machines, Moulds, Pouring Devices, etc.	CGCRI
Melting Point Apparatus	—	CDRI
Mercury Cleaning Apparatus	—	NGRI
Metal Centrifuge	See Centrifuge, Liquid Metal	
Meter, Lustre	—	ATIRA
Methanometer	Laboratory Model	CMRS
Mica Grading Instrument	—	CGCRI
Mica Paper Making Apparatus	—	CGCRI
Mixer, Glue	Chip Glue Mixer for particle boards	IPIRA
Mixer, Hot	Hot Mixer or Sigma Mixer	NML
Mixer-Settler	Continuous Mixer-Settler, Capacity 2 litres/hr	IIP
Mould, Briquette	—	CRRI
Mould, Cube	1/2" and 1½" sizes	CRRI
Mould cum Plunger	Mould and Plunger for Sonic Test	CRRI
Mould, Gyratory	Texas Gyratory Mould	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Mould, Optical Glass	Optical Glass Moulding Presses & Moulds	CGCRI
Moulds, Signal Lens	Special Signal Lens Moulds	CGCRI
Moulds, Ingot	—	NML
Mould, Tilt	Tilt Mould of a special nature	NML
Moulding Die	<i>See</i> Die, Moulding	
Muffle Furnace	<i>See</i> Furnace, Muffle	
Non-ferrous Products Casting Equipment	<i>See</i> Casting Equipment, Non-ferrous	
Oil Extractor	<i>See</i> Extractor	
Oil Reclamation Unit	<i>See</i> Reclamation Unit, Oil	
Oil Unit	Hot Oil Unit	NCL
Optical Glass Mould	<i>See</i> Mould, Optical Glass	
Oven, Air	Air Ovens of various sizes	CFRI
Hot Air Ovens		CDRI
Oven, Baking	Baking Oven for Dewar flasks	NPL
Oven, Electric	Electric Oven for mercury arc rectifier	NPL
Ovens	<i>See</i> Furnace and Autoclave	
Paper Lifting Vat	<i>See</i> Vat, Paper Lifting	
Particle Size Counter	—	RRL, Hyd.
Packages Tester	<i>See</i> Test Equipment, Packages	
Penetrometer	Liquid Limit Device Penetrometer	CRRI
Penetrometer, Coal	—	CMRS
Phthalic Anhydride Plant	Semi-Pilot Plant for Phthalic Anhydride, Capacity 1 cwt. per day	CFRI
Plasticity Apparatus	Atterberg unit for clay plasticity	CGCRI
Plastometer	Giesler Type for measuring of plasticity of coal	CFRI
Polymerization Reaction Unit	Continuous Unit for Polymerization Reaction	NCL
Press, Coal Briquetting	Ring Roll Press for Briquetting of coal fines	RRL, Hyd.
Press, Glass Planks	Foot Operated Glass Planks Forming Presses	CGCRI

Instrument/Equipment	Description	Laboratory/ Institute
Press, Hot	Hot Press : Internal dimension 4' x 8'	CRRI
Press, Sodium	—	NCL
Press, Textiles	Flat Press for textiles	ATIRA
Producer Gas Plant	Gas Producer Plant for ore-dressing operations	NML
	Producer Gas Plant for feeding the vertical reduction furnace, Capacity 10,000 cft. per hour	NML
Quenching Apparatus	Isothermal Transformation T.T.T. Quenching Apparatus	NML
Reaction Vessel	Reaction Vessel with oil bath and stirring arrangement	NCL
	S.S. Reaction Vessel	CSMCRI
Reaction Vessel, Hemispherical	S.S. Hemispherical Vessel complete with stand	CSMCRI
Reaction Vessel, Jacketed	S.S. Double Jacketed Vessel	CSMCRI
	S.S. Jacketed Vessel with stand	CSMCRI
	Shallow type double jacketed vessel from 1/8" S.S. and 1/8" M.S. Jacket	CSMCRI
Reactor, Carbon	Active Capacities 200 lb. per charge and 25 kg. per charge	CFRI
Reactor, Catalyst Testing	Reactor for Catalyst Testing Unit	RRL, Hyd.
Reactor, Ferro-alloy	Reaction Vessel for the production of ferro-alloy by alumino-thermic process	NML
Reactor, Fluidized, Synthetic Plant	Capacity 1 gallon per day	CFRI
Reactor, Water Gas	Water Gas Shift Reactor with ancillary equipment, Capacity 15,000 cft./hr	CFRI
Reclamation Unit, Oil	Unit for Reclamation of used oil	IIP
Refractory Equipment	Equipment for Refractory Pot Castings, Blungers, Moulds, Stirrers, O.H. Crane, etc.	CGCRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Resin Plant	Modified Kestner Resin Plant, Capacity 7½ gallons	RRL, Hyd.
Retort, Gas	Cheap Gas Retorts	NPL
Rotary Calciner	<i>See</i> Calciner, Rotary	
Rotary Drier	<i>See</i> Drying Unit	
Rotary Machine	Drum	CDRI
Rotary Deseeder	Drum	CFTRI
Rotating Filter	Drum	CFTRI
Rotary Kiln	<i>See</i> Kiln, Rotary	
Rotary, Furnace and Blasting Cabinet	<i>See</i> Furnace, Rotary	
Sebacic Acid Pre- paration Apparatus	—	RRL, Hyd.
Separation Unit, Fatty Acids	Fatty Acids Separation Unit by Urea adduction method, Stainless Steel, Capacity 25 kg. per day	RRL, Hyd.
Separator, Counter Current	Hardinge Counter Current Drum Separator, Capacity 2 tons/hr	CFRI
Serum Applicator	Spinco, for electrophoresis	CDRI
Signal Glass Mould	<i>See</i> Moulds, Signal Lens	
Silicate Furnace Dome	<i>See</i> Dome, Silicate Furnace	
Silicon Carbide Furnace	<i>See</i> Furnace, Silicon Carbide	
Silver Coating Machine	<i>See</i> Coating Machine, Silver	
Sodium Press	<i>See</i> Press, Sodium	
Softening Point Apparatus	STPT Standard	CFRI
Solvent Extractor	<i>See</i> Extractor	
Spark Plug Ionizing Electrode Equipment	<i>See</i> Electrode Equipment, Spark Plug Ionizing	
Spraying Equip- ment, Foam	—	NCL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Spraying Equipment, Insecticide	Insecticide Spraying Machine	NPL
Steam Jacketed Cylinder	<i>See Cylinder, Steam Jacketed</i>	
Still	Mild steel Still with condensers and receivers for studies on azeotropic distillation and defatting	CFTRI
	<i>Still stainless steel with agitator condenser and receiver, Capacity 5 gallons</i>	CFTRI
Sulphur Removal Equipment	Component Equipment for Sulphur Removal from Pyrite Roasting Plant, Capacity 20 tons/day	CFRI
Surface Coating Equipment	Surface Coating Equipment for Chromatography	NCL
Synthetic Reactor	<i>See Reactor, Fluidized, Synthetic Plant</i>	
Tackmeter, Paints	Rolling Cylinder Tackmeter for paints	RRL, Hyd.
Tar Acids Extractor	<i>See Extractor, Tar acids</i>	
Tar Distillation Unit	<i>See Distillation Unit, Tar</i>	
Tar Viscometer	<i>See Viscometer, Tar</i>	
Temperature Cham- ber	<i>See Chambers, Temperature</i>	
Test Equipment, Filtrability	Stainless Steel Filtrability Testing Unit	NCL
Test Equipment, Immersion	Intermittent Immersion Test Apparatus	NML
Test Equipment, Packages	Drop Tester for testing packages	CFTRI
Test Equipment, Shrinkage	—	CLRI
Test Equipment, Torsion	High temperature Torsion Apparatus for testing refractory materials	NML
	<i>Torsion Testing Apparatus</i>	NML
Test Furnace	<i>See Furnace, Test</i>	
Test Rig, Fuel Oil	Fuel Oil Filter Test Rig	CMERI
Test Rig, Lubricat- ing Oil	Lubricating Oil Filter Test Rig	CMERI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Titration Assembly	Coulometric Titration Assembly (assembled and fabricated on book design)	CLRI
Titration Assembly, High Frequency	—	CLRI
Toluene Chlorination Unit	Unit for the Chlorination of Toluene, Capacity 50 kg./day	RRL, Hyd.
Torsion Tester	<i>See Test Equipment, Torsion</i>	
Towers, Absorbing	Mild Steel	CSMCRI
Transistor Circuit Tester	<i>See Test Equipment, Transistor Circuit</i>	
Tube Furnace	<i>See Furnace, Tube</i>	
Vacuum Drier	<i>See Drying Apparatus, Vacuum</i>	
Vacuum Fusion Apparatus	Vacuum Fusion Apparatus for the determination of gases in metals and alloys	NML
Vacuum Sputtering Unit	—	CECRI
Varnish Kettle	<i>See Kettle, Varnish</i>	
Vat, Paper Lifting	Stainless Steel	RRL, Hyd.
Visbreaking Unit	Capacity 0·1-1·0 litre/hr of feed	HP
Viscometer, Tar	—	CFRI
Viscosity Determination Apparatus	Apparatus for Determination of Viscosity of molten slag by torsion method	NML
Water Gas Generator	<i>See Generator, Water Gas</i>	
Water Gas Reactor	<i>See Reactor, Water Gas</i>	
Water Softening Unit	Stainless Steel	NCL

Section 3 : Mechanical & Workshop Equipment

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Abrasion Testing Machine	<i>See Test Equipment, Abrasion</i>	
Acclimatization Unit	For insects	RRL, Hyd.
Annealing and Strain Point Apparatus, Glass	Apparatus for Measurement of Annealing and Strain point of Glasses of Scientific Apparatus	CGCRI
Area Integrator	For determination of the quality of air flowing through a mine roadway	CMRS
Area Meter	For direct measurement of the cross sectional area of a mine airway or similar section within the range of 4-20 ft diameter	CMRS
Bearings, Printing Roller	<i>See Printing Roller & Bearings</i>	
Beater	Hollander Beater, Capacity 15 kg.	RRL, Hyd.
Black Board Winding Machine	<i>See Winding Machine, Black Board</i>	
Blades, Microtome	—	CDRI
Blast Furnace, Wind Belt	Wind Belt for the hot Blast Furnace	NML
Blender, Twin Shell	Twin Shell Blender for Powders, Stainless Steel, Capacity 50 lb.	CFTRI
Blower, Exhaust	Fume Extraction Plant Exhaust Blower	NCL
Blungers	—	CGCRI
Boiler, Electrode	Automatic, Capacity 100 lb./hr at 40 psi.	CECRI
Book Craddle	Book Craddle used for taking microfilm of the books	NPL
Booster	—	CMERI
Boring Machine, Cork	—	NCL
Breaking Head	Breaking Head for Marshal Stability	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Brick Making Attachment	Brick Making Attachment for refractories work	NML
Chamber, Decompressor	For High Altitude Test Rig	CMERI
Cloth Inspection Equipment	Cloth Inspection Equipment with transillumination	SASMIRA
Collector, Fraction	Automatic	NPL
Collector, Pollen	Apparatus for automatic collection of Pollen and Spores in atmosphere	NBG
Compressive Strength Equipment	Components of the appliances to be used for finding compressive strength by equivalent cube method	CRRI
Compressor Auxiliaries	Flexible coupling and thrust bearing shoes	NPL
Compressor Unit	Compressor Unit with cooling shell for refrigerating international centrifuges	CDRI
Conveyer, M. S.	—	CSMCRI
Conveyer, Steam Jacketed	—	CSMCRI
Cooler, Groundnut Kernel	Capacity 1000 lb. groundnut per hour	CFTRI
Cooler, Room	—	NCL
Cooler, Water	Water Cooling Unit	NCL
Cooler, Water Bath	Portable Water Bath Coolers	NCL
Cooling Coils, Copper	Copper Cooling Coils with the shell of MO-Wound furnace	NML
Coulometer, Gas	—	CECRI
Core, Flow	Flow Core for Grouting	CRRI
Cork Boring Machine	See Boring Machine, Cork	
Crane, Wall	—	NML
Creep Machines, Trolley Setup	A new Trolley Setup for the Creep Machines on which the telescope and the illuminated scales are mounted	NML
Cuppling Tool	—	CMERI
Cylinder, Leak Proof	Metallic Steel or G.I. Cylinder Leak Proof, dia. 4", height 6"	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Decompress Chamber	<i>See</i> Chamber, Decompressor	
Dehydrator, Contact Plate	Vacuum Contact Plate Dehydrator for use in accelerated freeze drying	CFTRI
Dies and Punches	—	NPL
Dilatometer	—	NML
Drilling Jig	<i>See</i> Jig, Drilling	
Dynamometer	Hydraulic and Lathe Tool	CMERI
Electrode Boiler	<i>See</i> Boiler, Electrode	
Extrusion Equipment	Hydraulic	NPL
Fire Resistance Determining Equipment	<i>See</i> Equipment for Determining Fire Resistance of Paints	CGCRI
Forging Equipment	—	NML
Formers, Steel and Wooden	Wooden and Steel Formers for lining and butterfly valves for side blown converter	NML
Fuel Measuring Chamber	<i>See</i> Chamber	
Gas Compressor	<i>See</i> Compressor	
Gears	High Precision Gear	NPL
Gear Boxes	Precision Gear Boxes	NPL
Grain Silos	<i>See</i> Silos, Grain	
Grinding & Polishing Machines, Glass	Variable Speed	CGCRI
Grinding & Polishing Equipment	Grinding & Polishing Tools, Test Plates and prototypes for the following optical systems :	CSIO
	(i) Level objective, external focussing of 45 mm. dia. and 357.00 mm. focal length, (ii) Alternative Level objective of the above characteristics especially suited for economic production, (iii) Ramsden Eye-piece, 15 \times for levels, (iv) Epi-scope objective, f/5.6 to cover up to 216 mm. square size, focal length 500 mm., (v) Dia-scope objective, f/4 to cover up to 76 \times 76 mm. square size, focal length 200 mm.	

Instrument/Equipment	Description	Laboratory/ Institute
Grinding and Polishing Machine, Lens	Pedal Operated, Pan size 275 mm.	CSIO
	Single Spindle Lens Grinding and Polishing Machine, Pan size 500 mm. Variable speed 32-105	CSIO
Grinding Machine, Automatic	Automatic Rods Grinding Machine	NPL
Grinding Machine, Glass	Four Spindle Counter Shaft Drive	CGCRI
	Semi Automatic	CGCRI
Grinding Machine, Tablets	—	NPL
Grinder, Tissue	—	CDRI
Hammer, Compaction	—	CRRI
	Soil Compaction Hammer, Abbots Cylinder	CRRI
Hardness Tester	<i>See</i> Test Equipment, Hardness	
Heat Exchanger	—	CFTRI; CMERI CSMCRI
Helmet Testing Machine	<i>See</i> Test Equipment, Helmet	
Haemagglutination Plates	<i>See</i> Plates, Haemagglutination	
Hoppers	Dosex Parts, Hoppers, etc. for the imported machinery. All stainless steel	CFTRI
Hot Plate Apparatus	Guarded Hot Plate Apparatus	NPL
	Hot Plate for magnetic stirrers	NCL
	Hot Plate made of 10G mild steel, 7 ft diameter	NML
	Simplified	SASMIRA
Holder, Ear Speculum	—	NPL
Horse power meter	For bullock performance	NPL
Hydrostatic Tester	<i>See</i> Test Equipment, Hydrostatic	
Ice Machine, Flake	—	CMERI
Ice Cutting Machine	—	NPL
Ice Shaving Machine	—	NPL

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Impact Test Equipment	<i>See Test Equipment, Impact</i>	
Jar Mill	Porcelain Jar Mill with six jars	CECRI
Jig, Dielectric	—	NGRI
Jig, Drilling,	—	CMERI
Jigger Jolly Machine	—	CGCRI
Laudrometer	Stainless Steel	NCL
Lens Curve Generating Machine	—	CGCRI
Lens Grinding and Polishing Machine	<i>See Grinding</i>	
Light Power	—	CRRI
Load Cells	Prop Load Cells	CMRS
Load Cell, Electric	—	CMRS
Load Cell, Roof Bolt	Capacity 6 tons and 12 tons	CMRS
Load Test Equipment	<i>See Test Equipment, Load</i>	
Loading Beam	—	CMERI
Loading Frame	Capacity 40 tons, Mobile	CRRI
Loom, Dummy	—	ATIRA
Louver Boxes	Louver Boxes for corrosion test	NML
Masonry, Saw	<i>See Saw, Masonry</i>	
Maze	Maze for rats with arrangements to produce conflict neurosis	CDRI
Megohmmeter, Logarithmic	—	NPL
Mixer, Trough	Trough Mixer for Pilot Plant work on fungal diastase with 40 trays	CFTRI
Moulding Boxes	—	CMERI
Oil Diffusion Pump	<i>See Pump, Oil Diffusion</i>	
Oil Drums Bungs	Special design of Bungs for Oil Drums	NPL
Padding Mangle	—	SASMIRA
Particle Sampler	Size Sample Splitter for proper sizing of ores	NML

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Pasteurizer, Spin	Spin Pasteurizer for canned fruits	CFTRI
Pelletizer	16" size	NML
Percolators	Capacity 20 gallons and 30 gallons	CDRI
Perfusion Apparatus	Isolated heart Perfusion Apparatus	CDRI
	Isolated Lung Perfusion Apparatus (Perspex)	CDRI
Perspex Polishers	Polishing Machine and Scattered Light Meter for testing perspex polishers	NPL
Pitot Tubes	Pitot Metal Tubes	CFRI
	Pitots Static Tube	CMERI; NPL
Plates, Haemag- glutination	—	CDRI
Pollen Collector	<i>See Collector, Pollen</i>	
Preserves Unit, Hot	—	CFTRI
Pretensioning Beds	Capacity 5 tons and 25 tons	CBRI
Printing Roller & Bearings	Turning journal of a heavy press roller and fabrication of bearings	NPL
Pot Transferring Machine	Capacity 1½ tons	CGCRI
Psychrometer	Whirling Psychrometer	ATIRA
Pump, Oil Diffusion	Three stage Oil Diffusion Pump all-glass (Fractionating type)	CSIO
Pump, Solenoid	Glass Solenoid Pump	NML
Pump, Vacuum	Casting & Machining of Vacuum Pump Trap	NPL
Pump, Water Circu- lating	—	NCL
Punches	<i>See Dies and Punches</i>	NPL
Paddy Parboiling Tank	Tank Units with accessories for Parboiling Paddy erected at Tanjore	CFTRI
Paddy Soaking Unit	Continuous Paddy Soaking Unit with steaming chest for paddy, Capacity ½ ton per hour for studies on continuous parboiling of paddy	CFTRI
Rack, Digestion	Kjeldahl Model with 8 burners	CDRI

Instrument/Equipment	Description	Laboratory/ Institute
Recuperator Setup	Recuperator Setup for the gas fired Down Draft Kiln	NML
Reduction Apparatus	Stainless Steel	NML
Ring, Proving	—	CMERI
Rotar, Corrosion Testing	Rotar for testing corrosion under the conditions of corrosive gases environment	NML
Rotary Drum	<i>See</i> Drum, Rotary	
Rotating Device	Rotating device for mice to study the depressor and motor activity in mice	CDRI
Saw, Glass Slitting	—	CSIO
Saw, Masonry	Glass Sawing Machine	CGCRI
Scaber, Decade	Masonry Saw for cutting through the mortar in any course of brick	CBRI
Scaler, Dekatron	Two-stage Decade Scaler	CBRI
Screen Cage	—	CECRI
Shaker, Mechanical	Double Screen Cage for R/F measurements	NPL
Shaker, Rotary	Motor driven	NPL
Shaker, Sieve	—	CDRI; NCL
Sieving & Classifying Unit, Groundnut	Sieve & Classifying Unit for groundnuts for use at the MPF Plant erected by the institute at Coimbatore with other ancillary facilities	NPL
Sieving Machine, Vibratory	—	CFTRI
Silos, Grain	Vibratory Sieve Unit with 300 lb. per-batch sieving capacity 3' high \times 3½' wide and 6' long with a collecting chamber and filling spout fitted with V belt speed reduction pulleys system and one H.P. Motor	CGCRI
Slicer, Tissue	Static Riggs Tissue Slicer	CFTRI
Soil Testing Equip- ment	<i>See</i> Test Equipment, Soil and Sand	CDRI

<i>Instrument/Equipment</i>	<i>Description</i>	<i>Laboratory/ Institute</i>
Soxhlet Apparatus	Stainless Steel	CDRI
Spring Tester	<i>See Test Equipment, Spring</i>	
Steel and Wooden Formers	<i>See Formers, Steel and Wooden</i>	
Stands, Lapping	Portable	CSIO
Stand, Retort	—	NCL
Stand, Test Tube	Aluminium Test Tube Stand of varied design and sizes	NCL
Stirrer, Magnetic	—	NCL
Stirrer Mechanical	—	CMERI
Stirring Machine	Automatic Stirring Machine for homogeneity optical glass, Capacity 2 tons	CGCRI
Tablets Grinding Machine	<i>See Grinding Machine, Tablets</i>	
Tanks	Stainless Steel Tanks 15" dia. \times 36" height with lids and stands	CFTRI
	Stainless Steel Tanks 20" dia. \times 36" height with lids and stands	CFTRI
Tanks & Receivers	Tanks, Handling Vessels, Receivers and Various Accessories for processing work in M.S. aluminium, stainless steel, etc.	CFTRI
Tank, Digestion	All Stainless Steel	CDRI
Tanks, Storage	Aluminium Storage Tanks, Capacity 100 gallons, 33" dia. \times 4" height	CFTRI
	Storage Tanks for solvents, Capacity 500 litres	CFTRI
Tanning Drums	—	CLRI
Tensile Strength Tester	<i>See Test Equipment, Tensile Strength</i>	
Tensometer	—	ATIRA
Test Equipment, Abrasion	Abrasion Testing Apparatus for road marking paints	CGCRI
	Deval Abrasion Machine	CRRI
	CRRI Abrasion Machine	CRRI
Test Equipment, Concrete	Remoulding Concrete Test Apparatus	CRRI

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Compressibility (Mica)	Compressibility of Mica Testing Apparatus	CGCRI
Test Equipment, Corrosion	Corrosion Resistance Testing Equipment for Paints	CGCRI
	Louver Boxes for Corrosion Tests	NML
	Special Equipment for Testing Corrosion	NML
Test Equipment, Corrosion cum Erosion	Erosion cum Corrosion Testing Apparatus under totally or parti- ally immersed conditions	NML
Test Equipment, Crease Recovery	Crease Recovery Tester	ATIRA
Test Equipment, Crimp	Crimp Tester	SASMIRA
	Yarn Crimp Tester	ATIRA
Test Equipment, Evenness	Photoelectric Yarn Evenness Tester	ATIRA
Test Equipment, Fan	—	NPL
Test Equipment, Fatigue	Rotary Fatigue Testing Machine	NPL
	Special setup for accelerated Fatigue Test	NML
Test Equipment, Fibre Length	Photoelectric Fibre Length Tester	ATIRA
Test Equipment, Fineness	Airflow Fineness Tester	ATIRA
Test Equipment, Flammability	Flammability Tester	SASMIRA
Test Equipment, Flexing	Apparatus for Testing of Flexural Strength	CRRI
	Attachments for Flexural Strength Test (electrical)	CRRI
Test Equipment, Hardness	Hot Hardness Tester to determine hardness of metals at elevated temperature	NML
	Portable Pockwell Hardness Tester	CMERI
Test Equipment, Helmet	—	NPL
Test Equipment, Hydrostatic	—	SASMIRA

Instrument/Equipment	Description	Laboratory/ Institute
Test Equipment, Impact	Impact Testing Apparatus	IPIRA
	Impact Testing Machine (B. S.)	CRRI
	Impact Testing Machine, Com- mercial Model	CGCRI
	Impact Testing Machine, Labora- tory Model	CGCRI
Test Equipment, Load	Load Testing Machine, Capacity 1000 kg.	NPL
	Loading arrangements for testing full scale bridge and building components	CBRI
Test Equipment, Picker	—	CLRI
Test Equipment, Polishers	Polishing Machine and scattered light meter for testing perspex polishers	NPL
Test Equipment, Slamming Resistance	Equipment for testing flush door for Slamming Resistance	IPIRA
Test Equipment, Soil and Sand	Soil and Sand Testing (Mixing) Plant	CRRI
Test Equipment, Spark Plug	Spark Plug Impact Testing Equip- ment	CGCRI
Test Equipment, Spring	Spring Tester	CMERI
Test Equipment, Tear Strength	Tear Strength Tester	ATIRA
Test Equipment, Tensile Strength	Tensile Strength Testing Equip- ment for Mica Paper	CGCRI
Test Equipment, Twist	Yarn Twist Tester	ATIRA
Test Equipment, Wheel	Tracking Wheel Testing Apparatus	CRRI
	Wheel Testing Attachment for Wheel Tester	CRRI
Textiles Treatment Equipment	Equipment for Continuous Chemi- cal Treatment, such as Merceriz- ing and Parchmentizing of Yarn	ATIRA
Thermal Endurance Tester	—	NPL

Instrument/Equipment	Description	Laboratory/ Institute
Tissue Slicer	<i>See</i> Slicer, Tissue	
Tray	Tray for Membrane Curing Study, Size $10'' \times 5'' \times \frac{1}{8}''$	CRRI
Trays cum Trolley	Stainless Steel	NCL
Trolley	Horizontal and Vertical Trolleys for cylinders	CDRI
Vaccine Container	V.C.G. Vaccine Container	NPL
Vacuum Pump Trap	<i>See</i> Pump, Vacuum	
Valve, Needle	High Pressure	NCL
Valve, Pressure- Relief	—	CMERI
Valve, Relief	—	CMERI
Viscosity Cup	Viscosity Cup with Calibration	ATIRA
Washer, Pipette	Pipette Washers (Perspex)	CDRI
Washery Plant, Cyclone	Cyclone Washery Plant, Capacity 2 tonnes per hour	CFRI
Welding Fixture	—	CMERI
Wetting Unit	Capacity 500 kg./hr	CFTRI
Wheel Tester	<i>See</i> Test Equipment, Wheel	
Wheel, Wash	—	ATIRA; SASMIRA
Winch Machine	Modified Winch Machine for Geothermal Gradient Work	CMRS
Wind Belt	<i>See</i> Blast Furnace, Wind Belt	
Winding Machine	Automatic	CSMCRI
Winding Machine, Black Board	—	ATIRA
Wire Basket	Stainless Steel	NCL
Wrap Reel	Textile Wrap Reel	ATIRA
Yarn Testers	<i>See</i> Test Equipment	





